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# THE JOURNAL OF CUTANEOUS DISEASES

INCLUDING SYPHILIS

---

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GEORGE M. MACKEE, M. D., New York  
Editor

FRED WISE, M. D., New York  
Associate Editor

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## Original Communications

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### THE ASSOCIATION OF CERTAIN CUTANEOUS LESIONS WITH DISEASES OF THE HEMO- POIETIC SYSTEM \*

DOUGLAS SYMMERS, M.D.

Professor of Pathology in the University and Bellevue Hospital Medical  
College; Director of Laboratories, Bellevue and Allied Hospitals

NEW YORK

Among English speaking dermatologists the terms pityriasis rubra and dermatitis exfoliativa often are employed interchangeably to denote a disorder of indefinite etiology characterized by persistent erythrodermia and generalized desquamation of the epidermis. Continental observers, on the other hand, are inclined to separate the two on the basis of certain minor clinical differences. In addition to the generalized exfoliating dermatoses just mentioned there are several other lesions of the skin presenting the same essential features, but arising in response to the well defined toxic influences, such as drugs, notably mercury and formalin, the epidemic in the Central London Sick Asylum having been traced by Copeman<sup>1</sup> to the presence of the latter substance in the milk. Toxic influences have likewise been invoked to explain Hebra's pityriasis rubra, Jadassohn,<sup>2</sup> Foster<sup>3</sup> and others having drawn attention to the not infrequent association of the condition with tuberculosis of the lungs or lymph nodes. In the pathological laboratories at Bellevue Hospital I have several times had occasion to note the occurrence of exfoliating lesions of the skin in company with diseases of the hemopoietic system—once in a subject of Hodgkin's disease, once in extensive caseous tuberculosis of the lymph nodes, and once in the lymphatic variety of Sternberg's leukosarcomatosis. From this experience and for other reasons, I am

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\* Received for publication Nov. 1, 1918.

1. Copeman: Allbutt and Rolleston's System of Medicine, 1911, 9, p. 340.

2. Jadassohn: Arch. f. Dermat. u. Syph., 1891, 23, p. 941; *ibid.*, 24, pp. 85, 271 and 462.

3. Foster: Quoted by Adamson, Allbutt and Rolleston's System of Medicine, 1911, 9, p. 337.



led to believe that the association of a certain group of exfoliating dermatoses with lesions of the lymph nodes implies a broader significance than that of a toxic tuberculid, as maintained by Jadassohn, moreover, that the members of this group, together with certain other skin conditions, are but the externalization of toxemias of lymphoid, possibly, also, of medullary origin, into which tuberculosis may or may not enter, as the case may be.

#### GENERAL CLASSIFICATION

For descriptive purposes, the disorders of the skin associated with diseases of the hemopoietic system may be classified, broadly, into (a) those in which the skin is the seat of infiltrations of identical cellular composition with the changes in the hemopoietic tissues themselves, and (b) those in which the skin is involved by a diversity of changes, such as simple prurigo, urticaria, pigmentations and desquamative dermatoses, all of them expressive, no doubt, of local disturbances brought about by toxic substances manufactured in the deeper tissues and offered to the skin for excretion.

#### CUTANEOUS INFILTRATIONS

Nodular collections of cells have been observed in varying numbers in the skin and subcutaneous tissues in association with chronic lymphatic leukemia. Schnitter,<sup>4</sup> in 1906, was able to collect thirteen such cases from the literature and to add one from his own experience. Oertel's case<sup>5</sup> was overlooked, thus making fifteen cases in which the skin was the seat of infiltration of cells of the same sort as those in the hyperplastic lymph nodes and in the leukemic blood. Jordan<sup>6</sup> collected thirty-nine cases of pseudoleukemia with skin changes. He uses the term pseudoleukemia in the sense originally proposed by Cohnheim,<sup>7</sup> namely, to designate a disease characterized by precisely the same hyperplastic phenomena in the lymph nodes, spleen and elsewhere, as in chronic lymphatic leukemia, but unattended by persistent or excessive lymphocytosis—changes which are distinct from those of Hodgkin's disease, to which the term pseudoleukemia is often applied by English and American writers. In twenty of the thirty-nine cases of pseudoleukemia collated by Jordan the skin was concerned in nodular or infiltrating collections of lymphocytes, in sixteen cases such disorders as urticaria, eczema, lichen ruber acuminatus and folliclis were present, and in three cases generalized dermatitis exfoliativa.

4. Schnitter: Inaug. Dissert., Freiberg, 1906.

5. Oertel: Jour. Exper. Med., 1899, 4, p. 569.

6. Jordan: Monatschr. f. Dermat., 1909, A, 52, p. 489.

7. Cohnheim: Virchows Arch., 1865, 33, p. 451.

## OTHER DERMATOSES REQUIRING CONSIDERATION

Two other conditions demand consideration in the same connection, namely, mycosis fungoides and the lymphodermia perniciosa of Kaposi.<sup>8</sup> It is well recognized, of course, that the first named is characterized by a so-called premycotic stage attended by marked and persistent pruritus with or without eruptive changes in the skin, or by localized or disseminated alterations of the exfoliative erythrodermic, psoriatic or eczematous type, that enlarged lymph nodes may be apparent clinically or undetectable except at necropsy, and that the second phase is marked by the appearance of infiltrated patches or nodules, ulceration of which initiates the third, or fungoid stage.

The pathology of mycosis fungoides is admirably discussed by Fraser,<sup>9</sup> whose paper includes the results of an investigation of seven cases. I had the privilege of participating in the two necropsies in his series and of examining the microscopic preparations from the entire number. In the two cases in which postmortem investigation was permitted, extensive changes were found in the lymph nodes. In both instances the retroperitoneal nodes were enlarged to the size of from 1 to 5 cm., and the axillary, cervical, peribronchial and inguinal groups were also involved. In both cases microscopic examination of the lymph nodes, and, in one case, the bone marrow over a wide distribution, revealed structural alterations strikingly like those to be found in the same situations in Hodgkin's disease.

## EFFORTS MADE TO ATTAIN PROPER CLASSIFICATION

At an early epoch in the evolution of our knowledge of skin disorders objective features were depended on almost exclusively as a basis for classification. The application of histologic methods marked the first scientific attempt to emerge from the confusion imposed by the labyrinthine nomenclature of the objective dermatologist. Both methods have apparently been exhausted as far as the skin lesions themselves have to do with mycosis fungoides. They do not conform to any uniform clinical description, but vary from simple eruptive disorders to nodular or plaquelike infiltrations, the latter alone presenting a histologic picture which may be identified with anything approaching reasonable certainty. In short, it would appear that the fundamental derangements in mycosis fungoides are not to be sought in the skin—that the skin phenomena are significant of a deeper and more subtle process in the form of disturbances in the hemopoietic system, in the lymph nodes two distinct sets of change having been demonstrated:

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8. Kaposi: *Med. Jahrb.*, 1885, 15, p. 129.

9. Fraser: *THE JOUR. CUTAN. DIS.*, 1917, 35, p. 793.

one, already mentioned, in which the histologic picture is that of a granulomatoid process, conforming closely to Hodgkin's disease; another, in which the lesions in the lymph nodes are not to be distinguished from those of chronic lymphatic leukemia. Moreover, the blood in mycosis fungoides has been shown to undergo leukemic transformation in no inconsiderable number of instances. Taking these facts into consideration it seems to me that it would be more sensible to regard mycosis fungoides as essentially a disease of the hemopoietic system attended, as are certain others of the same class, by a diversity of cutaneous manifestations, and to regard as tentative all diagnoses of mycosis fungoides which are based solely on objective naked eye changes in the skin. The acceptance of this view would place mycosis fungoides on an anatomic basis, not only providing a structure around which to build, but relieving one of the precarious responsibility of attempting to correlate and systemize a heterogeneous array of skin disorders.

#### LYMPHODERMIA PERNICIOSA

The so-called lymphoderma perniciosa of Kaposi is accompanied by changes in the skin so noticeably like those of mycosis fungoides that the French dermatologists are inclined to classify the condition as such. Colcott Fox<sup>10</sup> takes exception to this view, however, on the ground that Kaposi's original case and the case described by Biesiadecki,<sup>11</sup> were associated with leukemic changes in the blood. This objection may be disregarded, I think, in view of the fact that numbers of observers have since recorded examples of apparently genuine mycosis fungoides with leukemic transformation. On the other hand, it has been suggested that mycosis fungoides is a variety of Hodgkin's disease with unusual cutaneous manifestations. The histologic changes in the lymph nodes, viscera and bone marrow in the two conditions are strongly indicative of the propriety of this interpretation, but negative evidence is forthcoming in that the leukemic transformation of Hodgkin's disease has never been observed, and to this extent at least, the clinical behavior of the two is fundamentally divergent. Moreover, the pathology of Kaposi's lymphoderma perniciosa is different from that of Hodgkin's disease, corresponding closely, on the contrary, to that variety of mycosis fungoides in which the lymph nodes are histologically indistinguishable from those of chronic lymphatic leukemia. The case of lymphoderma perniciosa originally described by Kaposi was characterized by generalized edematous and desquamative eczema with the appearance of dozens of ulcerative cutaneous and subcutaneous nodosities made up, microscopically, of lymphoid cells,

10. Fox: Allbutt and Rolleston's System, 1911, 9, p. 542.

11. Biesiadecki: *Osterr. med. Jahrb.*, 1876.



by multiple lymphadenopathies and enlargement of the spleen, and, near death, by a lymphocytosis of 125,000. At necropsy, in addition, there were lymphoid nodules in the pleura and lungs and diffuse lymphocytic infiltration of the bone marrow.

In the pathologic laboratories at Bellevue Hospital I have had occasion to study a case presenting certain features which appear to throw some light on the nosology of lymphoderma pernicioso, as indicating that this condition belongs in the category with Sternberg's lymphatic leukosarcomatosis and with the leukemic variety of mycosis fungoides.

#### LEUKOSARCOMA

The term leukosarcoma was introduced by Sternberg<sup>12</sup> to denote a disease characterized by the presence, in some part of the body, of a tumor composed of lymphoid cells which are eventually poured into the blood in such numbers as to constitute a true leukemia. Two types of leukosarcoma are recognized: one, in which the original growth is made up of cells of the lymphatic variety, subsequent infiltration of the blood representing a form of lymphatic leukemia; and a second, in which the original focus of growth is composed of myelocytes, the discharge of which into the blood gives rise to leukemia of the myelogenous type. In his last paper on the subject Sternberg records eight cases, six of which were of the lymphatic type and two of the myelogenous. In four cases of the lymphatic variety the original growth was located in the mediastinum, corresponding to the lymphoid remnants of the thymus gland. In three of these cases the clinical facts indicated that the thoracic growths had been present, respectively, for four months, five months and three years. In the fourth case the clinical disturbances were said to have been of three weeks' duration, but the intrathoracic tumor was of enormous size, and, according to Sternberg, must have been in existence for a period greatly in excess of that suggested by the clinical history. Of the remaining two cases of lymphatic leukosarcoma, one was a primary tumor of the orbital region of three months' and the other a tumor of the neck of seven weeks' duration. Cases of lymphatic leukosarcoma have also been recorded by Weber,<sup>13</sup> Mager,<sup>14</sup> O'Kelly,<sup>15</sup> Cole,<sup>16</sup> and others.<sup>17</sup> In one case investigated at Bellevue Hospital the original seat of growth was

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12. Sternberg: *Wien klin. Wchnschr.*, 1908, 21, p. 475; *Ziegler's Beitr.*, 1916, 61, p. 75.

13. Weber: *Am. Jour. Med. Sc.*, 1916, 152, p. 231.

14. Mager: *Wien. med. Wchnschr.*, 1909, 59, p. 1877.

15. O'Kelly: *Dublin Jour. Med. Sc.*, 137, p. 409.

16. Cole: *Jour. Am. Med. Assn.*, 1917, 69, p. 341.

17. Symmers: *Interstate Med. Jour.*, 1917, 24, p. 1005.

in the lymphoid tissues of the stomach wall, and of two mentioned by MacCallum,<sup>18</sup> one was primary in the breast, the other in the cervix of the uterus.

#### FACTORS ENTERING INTO THE DIAGNOSIS

The recognition of lymphatic leukosarcoma depends on at least three factors: (1) The existence of a tumor which, on microscopic examination, reveals the histologic picture of lymphosarcoma, the cells, contrary to the usual arrangement, consisting almost exclusively of large lymphocytes with an admixture of small cells. In occasional instances, however, this order is reversed. In the greater number of examples thus far recorded the large lymphocyte was described as the preponderating cell, both in the primary focus of growth and in the blood. In Cole's case, on the contrary, the cells in both places were of the type of small lymphocytes. (2) The original focus of growth may exist for weeks, months or years before invasion of the blood stream occurs, but involvement of the blood, when it does take place, is abrupt and the process then advances with rapidity. (3) The disease is accompanied by enlargement of the spleen, the lymph nodes in various situations, the liver, kidneys, etc., due to diffuse infiltration of lymphocytic cells or to their presence in circumscribed collections. In short, the disease, as its name implies, is a variety of lymphosarcoma with leukemic transformation.

#### REPORT OF CASE

*CASE 1.—History.*—A case of lymphatic leukosarcoma observed at Bellevue Hospital was that of a woman, aged 25, who presented a tumor in the neck of three years' duration. The mass was irregularly rounded and nodular, and extended from the occiput downward over the posterior cervical region. The skin over it had undergone ulceration and that covering the remainder was scaly. Immediately adjacent to the growth were numbers of enlarged lymph nodes which were matted together. The axillary nodes on the same side were greatly enlarged and fused, a condition which, according to the patient, came on two years after the growth in the neck. The inguinal nodes on both sides were similarly involved, commencing, the patient stated, two months after the axillary enlargement. The tonsils were large.

*Examination.*—One month before admission, the patient stated, her skin began to scale. At the time of admission she presented the picture of diffuse exfoliating dermatitis. The ulcerated mass in the neck and the condition of the skin as a whole prompted a dermatologist who saw her to make a diagnosis of mycosis fungoides. Spleen: This was palpable several fingers' breadth below the costal slope. The liver was felt at the level of the umbilicus. Blood Examination: At the time of admission the blood showed 15,800 leukocytes, of which 70 per cent. were polynuclear neutrophils, 22 per cent. small lymphocytes and 2 per cent. large lymphocytes. A month later, that is to say, about three weeks before death, the white cells numbered 164,000, of which 28 per cent. were polynuclear neutrophils, 52 per cent. large

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18. Mac Callum: Textbook of Pathology, 1916, p. 774.

mononuclear cells of the lymphocytic type, 14 per cent. small lymphocytes, 5 per cent. eosinophils and 1 per cent. myelocytes. The red cells were 4,000,000 and hemoglobin 65 per cent.

*Necropsy.*—The body was that of a greatly emaciated woman. The skin was dry, scaly and wrinkled. In the lower part of the right side of the neck was a large, fungating mass. Around it the subcutaneous tissues were edematous, and, in the immediate vicinity of the growth were enlarged lymph nodes which, on section, presented a pale, glistening surface. Some of them were centrally necrotic. Both tonsils were enlarged and infiltrated by tumor tissue, and the axillary nodes were similarly changed. The abdomen contained a quantity of turbid, slightly greenish fluid. The anterior mediastinal and peribronchial lymph nodes were enlarged and infiltrated. The spleen was enlarged, reaching a hand's breadth below the costal slope on the left side. It measured 22 by 13 by 9 cm. The liver weighed 2,120 gm., and scattered through it were numbers of small, whitish spots. The perigastric, peripancreatic, retroperitoneal, mesenteric and inguinal nodes were enlarged and exceedingly numerous. Some of them were centrally necrotic.

*Histopathology.*—Microscopic examination of lymph nodes removed from the immediate vicinity of the growth in the neck showed the presence of large numbers of small lymphocytes and somewhat smaller numbers of lymphocytes of the large variety. The architecture of the node was completely replaced by diffuse overgrowth of cells and the capsule was moderately richly infiltrated. Mitotic figures were numerous. In lymph nodes removed from other parts of the body the preponderating cells were of the large type, relatively few small ones being seen. The spleen was diffusely infiltrated by large, mononuclear cells, and the perilobular connective tissue of the liver supported numerous foci of identical composition. The bone marrow was almost completely replaced by infiltrating cells of the same type, and the blood vessels throughout the body contained them in great numbers.

#### AUTHOR'S OBSERVATIONS

The case just recorded and that originally described by Kaposi as lymphoderma perniciosum are essentially alike, the only noteworthy differences being merely those of degree, since, in Kaposi's case, the ulcerated cutaneous nodules were widely scattered, while our case was attended by a large, solitary ulcerated growth. The conclusion naturally follows, I believe, that Kaposi's lymphoderma perniciosum is not to be regarded as a pathologic entity, but as an example of lymphatic leukosarcomatosis with a precedent edematous eczema, the skin changes in the Bellevue Hospital case taking the form of erythrodermia exfoliativa.

#### HODGKIN'S DISEASE

A considerable percentage of all cases of Hodgkin's disease is attended by alterations in the skin.<sup>19</sup> These are divisible into two groups: one, consisting of such incidental changes as macules, prurigo-like eruptions, lichenification and pigmentaton; the second, consisting

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19. Ziegler: Die Hodgkinsche Krankheit, Jena, 1911, 31; Cole: loc. cit.



of infiltration of localized cutaneous areas by cells of the same histologic composite which characterizes Hodgkin's disease as seen in the lymph nodes and viscera, that is to say, a fibroblastic stroma in which are variable numbers of lymphoid and plasma cells, eosinophils and eosinophilic myelocytes, large mononuclear cells, and multinucleated giant cells of the myeloid or bone marrow type.

#### NATURE OF THE CHANGES IN HODGKIN'S DISEASE

Three views obtain as to the nature of these changes. By some pathologists Hodgkin's disease is regarded as an infective granuloma.<sup>20</sup> Thus far numerous and varied attempts to establish a causal relationship between it and different micro-organisms have failed to substantiate this view. By others the disease is looked on as a primary neoplastic process.<sup>21</sup> This theory has likewise failed of general acceptance, and is of questionable value, I think, if for no other reason than that tumor metastases are dominated by a single type of cell, namely, by the genetically identical cells of which the parent growth is composed. In Hodgkin's disease, on the other hand, the lesions in the lymph nodes and elsewhere are made up of a number of different cells, certain of which, as far as we know, have no genetic relationship to one another, and, in order to fulfil the definition of metastases, the visceral deposits would necessarily have to reach their new abode in the form of cell composites and proliferate as such. The only alternative view is equally strained, namely, that a single type of cell, when transplanted, reproduces a cell complex. The third view<sup>22</sup> postulates that Hodgkin's disease is a process which demands lymphoid tissue as a prerequisite to development. In the nodes and elsewhere hyperplasia of lymphoid cells is the first detectable histologic change. As development proceeds, the histologic picture assumes an individuality due to the presence among the lymphoid cells of elements morphologically identical with cells normally encountered in the bone marrow. I prefer to believe that Hodgkin's disease is primarily neither an infective nor a neoplastic process, but a systemic disease which partakes of the nature of both and which expresses a predilection for lymphoid tissues, giving rise to multiple foci of growth in response to the same provocative agent. The provocative agent, probably a toxin, initiates, if, indeed, it does not perpetuate, hyperplastic changes in the lymph nodes and in auxiliary lymphoid depots in other tissues — the liver, kidneys, lungs, thyroid, adrenals, serous membranes, etc. —

20. Sternberg: *Centralbl. f. der Grenzgeb. d. Med. u. Chir.*, 1899, 11, pp. 641, 711, 770, 813 and 847.

21. Gibbons: *Am. Jour. Med. Sc.*, 1906, 132, p. 692.

22. Symmers: *Arch. Int. Med.*, 1917, 19, p. 990.

together with disturbances in the bone marrow signaled by the discharge into the circulation of large mononuclear cells, eosinophils, eosinophilic myelocytes and myeloid giant cells. These cells are caught by the hyperplastic lymphoid tissues in pursuit of their function as filters, or are deposited in them as a result of chemotactic attractions, fibrotic changes in the recipient tissues occurring purely as a local reaction.

#### PRACTICAL CONSIDERATIONS

This interpretation appears to me to be borne out by several facts. For example, in a case of myelogenous leukemia observed postmortem at Bellevue Hospital, the subject presented enlarged inguinal and retroperitoneal lymph nodes, microscopic examination of which showed the histology of Hodgkin's disease, while in them numerous giant cells of the myeloid type were found lying free in the capillaries or nestled among the lymphoid cells (Fig. 1). This extraordinary microscopic finding would seem to offer direct visual evidence of the result of embolism of cells from the hyperplastic bone marrow of myelogenous leukemia to the enlarged lymph nodes of Hodgkin's disease. Moreover, Flexner's observations<sup>23</sup> on lymphotoxins and myelotoxins have shown that injection of these substances into certain animals is followed by hyperplasia of the lymphoid tissues throughout the body and by increase in the nongranular, mononuclear cells, the granulated leukocytes and the myeloplaxes. Exactly the same changes occur in the same situations in Hodgkin's disease, so that I think it probable that the histologic composite so characteristic of this disease is brought into being as a result of the action of toxic substances on functionally related tissues, that is to say, the lymphoid tissues and the bone marrow. The interpretation in question is furthermore substantiated by myeloid transformation of the spleen, liver and other organs in various pathologic conditions, in which event the myeloid foci bear a striking similarity to the changes occurring in the same localities in Hodgkin's disease.<sup>24</sup>

Of eight cases of Hodgkin's disease observed postmortem at Bellevue Hospital, one was attended by cutaneous lesions. The subject was a male aged 20, who presented extensive changes in the abdominal and inguinal lymph nodes and in the liver, spleen and lungs. The skin of almost the whole of the body was dry, roughened and desquamating in flakes.

23. Flexner: Univ. Penn. Med. Bull., 15, p. 287.

24. Donhauser: Bull. Ayer Clin. Lab., 1908, 5, p. 46; Gulland and Goodall: Jour. Pathol. and Bacteriol., 1905, 10, p. 125.

## ANOTHER GROUP OF CASES

Finally, there is a group of cases of generalized exfoliative erythrodermia, in which tuberculosis of the lymph nodes appears to provide an etiologic factor of moment. Cases of this sort have been recorded by Jadassohn,<sup>25</sup> Mueller,<sup>26</sup> Bruusgaard,<sup>27</sup> and others. In this particular group the combination of events and the intimacy of their relationship to one another can scarcely be ignored in the consideration of lymphotoxins as a cause of certain types of skin disorders. At Bellevue Hospital I recently had an opportunity to study such a case in a man who was admitted complaining of anorexia, weakness, chills and fever. The patient stated that, in 1913, he had been operated on for enlarged lymph nodes in the neck. Two years later he was again operated on, this time at the New York Hospital, and enlarged nodes, shown to be tuberculous on microscopic examination, were removed from the neck. In the course of the next year similar enlargements occurred in the neck, axilla and groin. Six months after the last operation the patient stated that his skin became reddened, dry and scaly. This condition lasted for two weeks and then disappeared. Six weeks before admission to Bellevue Hospital the skin condition recurred and was generalized. The skin in the region of both knees and that around the wrists was purplish in color, elsewhere it was pinkish. The skin of the entire body, including the scalp, was dry and scaly, the scales being large and of the appearance of parchment, dropping off in such numbers that the bed linen had to be changed frequently. Chills occurred every afternoon and each chill lasted about fifteen minutes. The evening temperature was always about 102 F. No malarial parasites were found in the blood. The cervical nodes on the right side, the right supraclavicular, and the right axillary and inguinal nodes were greatly enlarged, hard and painless. The skin over them was not ulcerated.

At necropsy, in addition to the extensive skin changes already described, examination revealed marked enlargement of the superficial lymph nodes on the right side of the body, including those of the neck, axilla and groin. The retroperitoneal nodes, particularly on the right side of the spinal column, were numerous and the size of a walnut. Those along the line of the external iliac artery were the largest in the body, some of them massed to form groups the size of a small lemon. On palpation the enlarged nodes were elastic. On section they were

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25. Jadassohn: loc. cit.

26. Mueller: Arch. f. Dermat. u. Syph., 1907, 87, p. 255.

27. Bruusgaard: Arch. f. Dermat. u. Syph., 1903, 67, p. 227.



grayish white in color and presented central foci of yellowish discoloration corresponding to caseation. Examination of the other organs showed nothing worthy of note in the present connection.

Microscopic examination of the lymph nodes revealed the changes incident to tuberculous lymphadenitis with almost complete replacement of the lymphoid cells by caseous material and the overgrowth of fibrous tissue.

#### THE MULTIPLE, SO-CALLED SARCOID GROWTHS OF THE SKIN

Under the caption of sarcoid growths Darier<sup>28</sup> groups four types of nodular skin lesions, in three of which the process is almost certainly tuberculous, the fourth representing, probably, a form of cutaneous lymphosarcomatosis.

(a) The so-called "multiple benign sarcoid growths" of Boeck<sup>29</sup> are characterized by the appearance in crops of small, rounded, painless nodules, each group lasting for months or years, occasionally disappearing completely, leaving small, pigmented scars. Ulceration does not occur. Histologically, the picture is strikingly like that of tuberculosis, variable numbers of giant cells of the Langhan's type lying in a stroma of epithelioid and small round cells. In one set of cases the cutaneous lesions occurred in association with pulmonary or lymph node tuberculosis.<sup>30</sup> In a second set of cases positive reactions to tuberculin were secured.<sup>31</sup> In still other cases the infective nature of the process was demonstrated by the injection of emulsified tissues into guinea-pigs and the production of typical tuberculous lesions.<sup>32</sup> Sometimes the reaction in guinea-pigs is prompt and the animal dies within a few weeks, at other times death is prolonged to the extent of a year or more, at still other times sacrifice of the animal resulted in the discovery of nodules which, on microscopic examination, revealed changes indicative of indolent or even healed tuberculosis,<sup>33</sup> the virulence of the tubercle bacillus thus varying greatly.

(b) There is a second group of cases of multiple so-called sarcoid growths in which nodosities, painless, varying in size from a pea to that of a hazel nut and occasionally ulcerating, are located almost exclusively on the extensor surfaces of the extremities, and bear a

28. Darier: *Monatsch. f. pract. Dermat.*, 1910, A, 50, p. 419.

29. Boeck: *Ergänzungsab. z. Arch. f. Dermat. u. Syph.*, 1900, 153; *Arch. f. Dermat. u. Syph.*, 1905, 73, Nos. 1-3, p. 71.

30. Winkler: *Arch. f. Dermat. u. Syph.*, 1905, 77, p. 3.

31. Opificius: *Arch. f. Dermat. u. Syph.*, 1907, 85, p. 239; Stümpke: *Dermat. Ztschr.*, 1913, 20, p. 199.

32. Morowetz: *Arch. f. Dermat. u. Syph.*, 1910, 102, p. 121; Kyrle: *ibid.*, 1910, 100, p. 375.

33. Sweitzer: *Jour. Am. Med. Assn.*, 1914, 63, p. 991.

certain clinical resemblance to erythema induratum. In Philipppson's case<sup>34</sup> acid-fast bacilli were identified in sections, and Colcott Fox<sup>35</sup> and others reproduced tuberculous lesions by the injection of emulsified material into animals.

(c) In a third group of cases, described by Darier in company with his pupil, Roussy, as the rarest of all known varieties of so-called sarcoid growths, the nodules are rounded or oval, painless and few in number, the overlying skin is not ulcerated, and the individual enlargements vary in size from a pea to a walnut, the nodules sometimes being connected with one another by a cordon of easily palpated subcutaneous shotlike bodies. The histologic features as described and depicted by Darier are indistinguishable from those of tuberculosis. In two of his three cases tuberculosis was present in other parts of the body, but tubercle bacilli were not to be found in microscopic preparations of the growths in the skin, and inoculation of animals was negative.

Except for the fact that skin lesions were present in excessive numbers, a case presenting all the essential features of the Darier-Roussy variety of sarcoid growths was recently investigated post-mortem at Bellevue. Clinically, the case was admirably followed by Dr. Benjamin Barringer and his assistants, Drs. Meltzer and Vincent, to all of whom I am indebted.

*CASE 2.—History.*—The patient was a man, aged 30, who was admitted to Bellevue Hospital with mucous patches and a generalized maculo-papular eruption, both disappearing under antisyphilitic treatment. In August, 1918, while still under observation in the hospital, the patient developed nodular enlargements in the axillae, neck and groin, followed in the course of about six weeks, by the appearance of literally dozens of nodules in the subcutaneous tissues varying in size from a pea to that of a walnut (Fig. 2).

*Examination.*—The nodules were painless and the skin over them was not ulcerated. Some were pale, others faintly bluish in color, in others the skin covering them was roughened, finely fissured and desquamating, particularly in those regions which had been subjected to injury from pressure. In many instances it was noted that the larger nodules were connected with one another by a string of easily palpated subcutaneous beadlike bodies. There was no fever, the Wassermann reaction was negative, and examination of the blood showed no noteworthy deviations. Death was due to lobar pneumonia.

*Necropsy.*—The body was that of a well developed, fairly well nourished man. On inspection dozens of nodules were found scattered beneath the skin corresponding to the distribution shown in the accompanying illustrations. The nodules varied in size from a pea to a large marble. They were rounded or oval in outline, firm, discrete; some of them were freely movable beneath the skin and against the deeper structures, others were firmly attached to the skin. The cut surface presented a homogeneous, yellowish appearance. The lungs were the seat of pneumonic consolidation, but free from nodules. The

34. Philipppson: Quoted by Sweitzer, vide loc. cit.

35. Fox: Brit. Jour. Dermat., 1893, 5, p. 225.

heart showed several firm, pea-sized, yellowish foci in the visceral pericardium anteriorly, pressing on the heart muscle at the junction of the right auricle and ventricle. Section through these nodules showed the same homogeneous, yellowish tissue as that described in the skin. The liver was increased in size, weighing  $6\frac{1}{2}$  pounds. It extended about three fingers' breadth below the right costal slope in the midclavicular line. On section the cut surface was literally peppered with pinpoint or pinhead-sized, grayish foci which were smooth to the touch and flush with the surrounding tissues. Lymph Nodes: The cervical, axillary, epitrochlear and periportal nodes were enlarged to the extent of from 1 to 7 cm. The nodes were discrete, firm, yellowish, and, on section, presented a smooth, homogeneous, glistening surface. Spleen: The spleen was greatly increased in size, weighing 1,150 gm. and measuring 22 by 12 by 7 cm. It was rather soft in consistence. The surface was coarsely mottled by dozens of large and small, flattened, irregularly outlined, firm, cream colored masses, each of which was delimited by a zone of injection. The splenic tissues between these areas of infarction were bluish red in color and friable. No other anatomic changes of interest were encountered.

*Histopathology.*—Microscopic examination of the enlarged lymph nodes and of the nodules in the skin revealed identical changes. The ground substance was made up of a diffuse growth of connective tissue supporting variable numbers of lymphoid cells, fibroblasts and epithelioid fibroblasts together with large numbers of typical multinucleated giant cells of the Langhans' type (Figs. 4 and 5). Neither spirochetes nor tubercle bacilli could be found in specially stained sections from a lymph node removed during life and fixed immediately in formalin.

The nodules in the pericardium, histologically, consisted of vast numbers of small round cells which were diffusely distributed through the fat tissues. Lying among them were relatively small numbers of fibroblasts and epithelioid fibroblasts and a sprinkling of typical Langhans' giant cells.

Unfortunately, the necropsy was done at a time when the so-called influenza was epidemic in New York, and both the hospital and mortuary facilities were taxed to the utmost, so that the body had to be kept overnight at room temperature, the liver suffering marked postmortem changes. Microscopic examination of this organ showed innumerable foci of degenerate small round cells, among which other cellular structures were not to be identified. One gained the impression, however, that the foci in the liver were of much the same composition as in the pericardium.

The microscopic changes in the spleen were those of multiple hemorrhagic and anemic infarctions.

#### COMMENT

It appears to me that the great majority, if not all, of the so-called sarcoid growths included in the first three groups of Darier are nodular tuberculomas, the fourth group representing, perhaps, a variety of cutaneous lymphosarcoma. I base this opinion on the histologic descriptions and illustrations, the latter providing an absolute counterfeit of the microscopic alterations found in certain tuberculous foci in other parts, on the occasional detection of acid-fast bacilli in microscopic sections of so-called sarcoid nodules, and on the production of tuberculosis in susceptible animals by the injection of tissue from sarcoid growths. For like reasons I am strongly inclined



to regard the sarcoid lesions described in this paper as tuberculous, the histologic features, as shown in the illustrations, serving as almost conclusive evidence. We were unable to demonstrate acid-fast bacilli in specially stained tissues. Similar attempts, in known tuberculous tissues, however, are so frequently fruitless, that failure in this instance, while unfortunate, was not unexpected. The tuberculous nature of the process was not suspected at the time of necropsy and consequently guinea-pigs were not injected with freshly emulsified material. The only alternative interpretation seems to be that the lesion was syphilitic. There is little doubt that the patient acquired syphilis shortly before the eruption of the so-called sarcoid nodules. On the other hand, I have never found histologic changes in syphilitic tissues of the same character and distribution as those described and depicted in the present connection, the profusion of Langhans' giant cells militating against the diagnosis of syphilis. They occur in syphilitic lesions, in my experience at least, as an exceedingly rare event. There are, in fact, those pathologists who deny that Langhans' giant cells ever occur in syphilis, no less an authority than Baumgarten taking this view, which, no doubt, most pathologists would regard as extreme and not justified by the routine experience of those who have to do most frequently with syphilitic tissues.

#### CONCLUSIONS

1. Instances of generalized exfoliative erythrodermia occur sufficiently frequently in association with such diseases of the lymph nodes as Cohnheim's pseudoleukemia, lymphatic leukosarcomatosis, Hodgkin's disease, mycosis fungoides and disseminated tuberculous lymphadenitis, as to indicate a symptomatic relationship. It seems to me to be probable that, in these circumstances, toxic substances formed in the lymph nodes are offered to the skin for excretion, interfering with its nutrition in such fashion as to promote widespread desquamation of the superficial epithelium.

2. There are apparently excellent reasons for the belief that mycosis fungoides is primarily a disease of the hemopoietic system, more particularly the lymph nodes, in the course of which diversified skin changes arise, partly as phenomena secondary to the discharge of lymphotoxins or myelotoxins, or both, and partly as a result of infiltration of the skin by the same variety of cells as characterize the structure of the diseased lymph nodes themselves.

3. The clinical and pathologic changes in the so-called lymphodermia perniciosa of Kaposi are essentially the same as those of

Sternberg's lymphatic leukosarcoma, both belonging in the category with cases of mycosis fungoides in which leukemic transformation occurs.

4. The greater number of all cases of so-called sarcoid growths, as grouped and classified by Darier, are almost certainly nodular cutaneous tuberculomas. The term sarcoid should be eliminated from dermatological literature as meaningless and confusing.

I am deeply indebted to Dr. John E. McWhorter for the photomicrographs, to Mr. W. B. Morrison for the photograph, to Mr. S. M. Adler for the drawing, and to Dr. Morris Dinnerstein and Mr. W. M. Johnson for technical aid.

## EXPLANATION OF ILLUSTRATIONS

Fig. 1.—Oil immersion photomicrograph showing myeloid giant cells in a capillary. The preparation is intended to provide visual evidence of the result of embolism of myeloid giant cells from the hyperplastic marrow to an enlarged lymph node in a case of Hodgkin's disease occurring as an epiphenomenon in chronic myelogenous leukemia.

Fig. 2.—Photograph of patient showing multiple nodular tuberculomas of the skin (the so-called sarcoid growths of the Darier-Roussy type).

Fig. 3.—Back view of the same patient.

Fig. 4.—High power drawing of microscopic preparation from one of the subcutaneous nodules shown in the two previous illustrations. Note the profusion of typical Langhans' giant cells lying in a fibroblastic stroma.

Fig. 5.—Photomicrograph of subcutaneous nodule from the same patient.



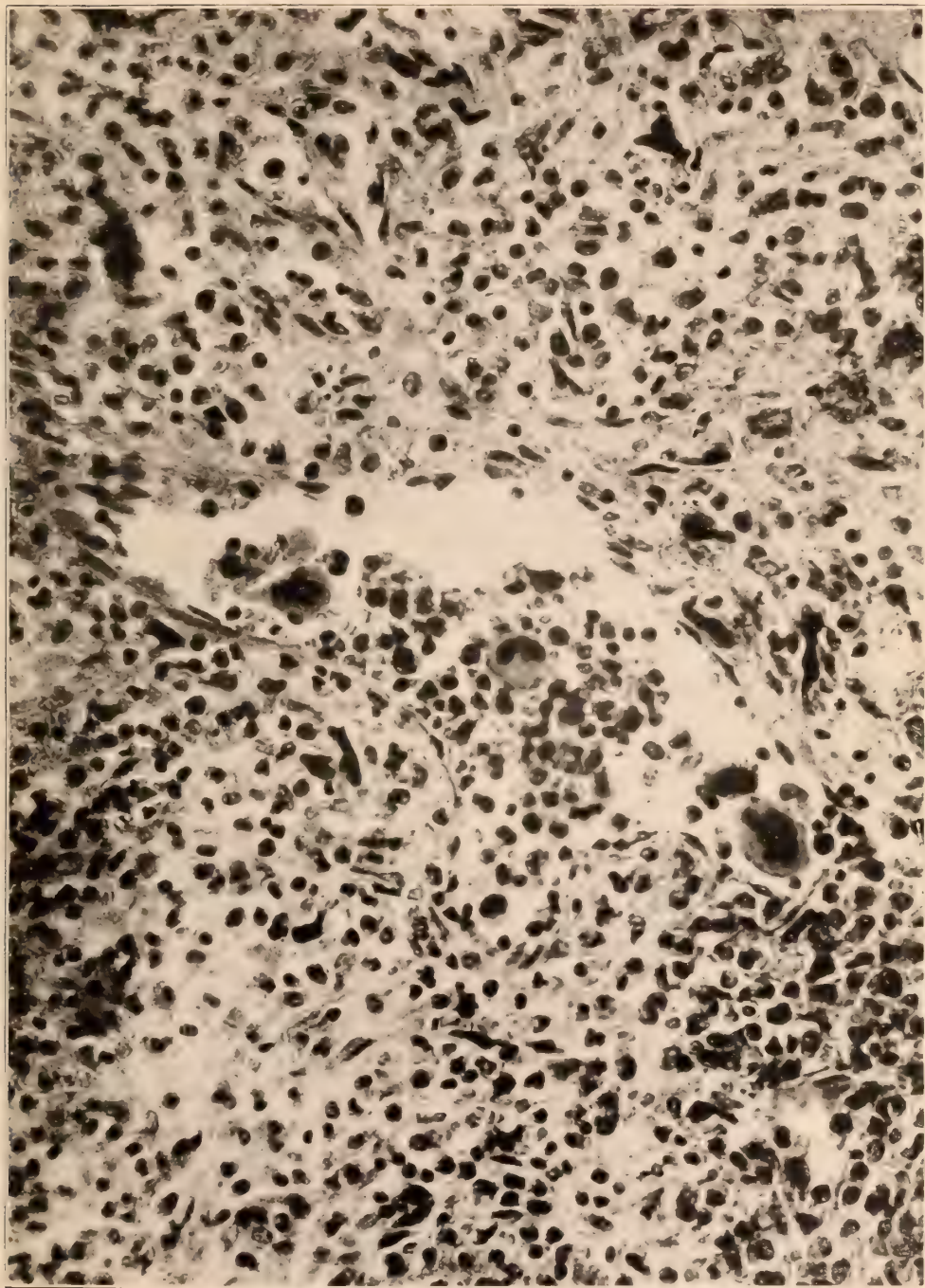


Figure 1

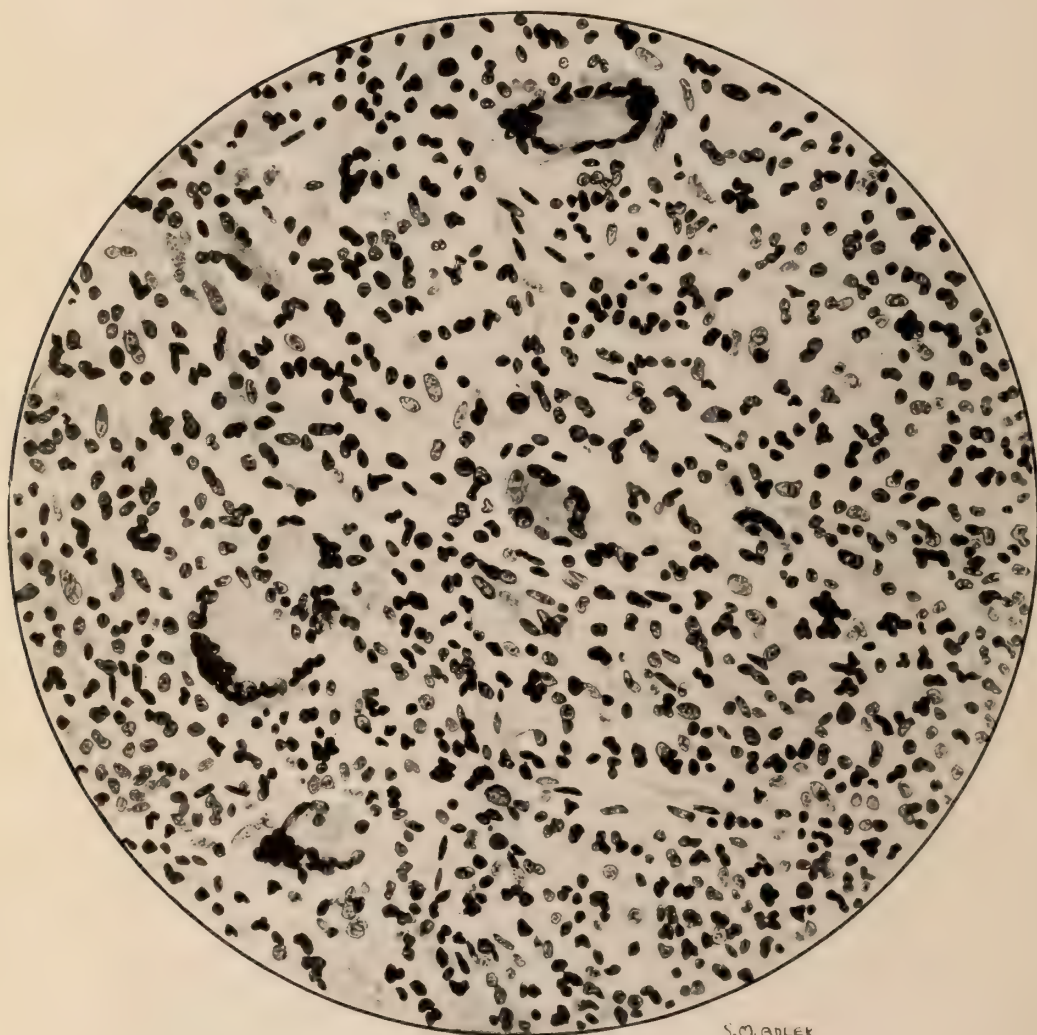


Figure 2



Figure 3





S.M. ADLER

Figure 4



Figure 5



# UNUSUAL FORMS OF SUPERFICIAL EPITHELIOMAS OF THE SKIN \*

LLOYD W. KETRON, M.D.

Associate in Dermatology, Johns Hopkins University, Medical Department  
BALTIMORE

Cancer of the skin is divided histologically into two principal groups; the prickle-cell cancer, and the basal-cell cancer. Of the former, the distinguishing characteristic is that the cells of the new growth resemble those of the prickle cell layer of the epidermis; of the latter, that the cells of the new growth are similar to the cells constituting the basal cell layer of the epidermis. There are also important clinical differences between these two types. The prickle-cell cancer is comparatively rapid in growth and metastasizes early, but the basal-cell cancer grows slowly and very rarely metastasizes. The basal-cell cancer is the one most frequently met with by the dermatologist and its classic representative is the rodent ulcer. These basal-cell tumors most frequently develop on the faces of people past the age of 40 and are often associated with signs of senile degeneration of the skin.

The following three cases are examples of basal-cell epithelioma of the skin and were thought worthy of report because of their unusual clinical appearances as well as the unusual histologic picture in one of them. They also illustrate a type of skin cancer which I do not believe is sufficiently recognized in our literature.

## REPORT OF CASES

*CASE 1.—History.*—The patient was a man, aged 40, a school teacher by occupation. About twelve years ago he bruised a flat, pigmented mole which was about the size of a finger-nail and was situated on his back. The mole became sore and covered with a scab which, however, soon disappeared. During the following five or six years the area would become irritated and crusted at various times. Finally, about five years ago, the soreness did not heal as it usually had done and the patient consulted a physician who burned it out with caustics. It healed up and remained well until about one year ago when it became inflamed about the edges of the scar. Cauterization was again resorted to, but healing did not take place and it has since increased in size. Two years ago, two other similar lesions appeared on the back.

*Examination.*—When he came to me the largest lesion present was about 2 by 3 cm. in diameter and lay over the left shoulder blade (Fig. 1, *A*). It consisted of a dark, irregular, flat patch. In its upper right corner there was a pea-sized scar which marked the site of the cauterized mole. None of the

\* From the Department of Dermatology of the Johns Hopkins University.

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mole structure was apparently present. The area was infiltrated, but did not have a hard, indurated feel and was not bound down to the underlying tissues. There were a few small crusts about the periphery which, in some cases, covered pinhead-sized ulcerations. The surface of the central area was smooth with branny scaling. Along a portion of the edge there was a slightly raised, smooth, glistening, pearly border, about 1 mm. in diameter. Two other lesions about 1 cm. in diameter were found; one of these lay just to the right of the one described; the other, to the left of the spine at about the level of the iliac crest. These lesions were similar in character to the first except that the pearly border was not present.

*Symptoms.*—The patient said that when he used salves, the crusts cleaned off and the patches became smooth. Itching was a frequent and a rather troublesome symptom.



Fig. 1 (Case 1).—Multiple epitheliomas of the back. These lesions have the dark-red color characteristic of syphilis. Note the fine pearly border on the left of the largest patch.

*CASE 2.—History.*—A printer, aged 50. The condition had begun twelve years before on the right side of the face. At this time the patient had had a number of small blisters on his face and he believed that the present disease started from one of these. As the area increased in size, small pimples and scabs would frequently appear on its surface but they would soon dry up and disappear. Occasionally pus was found beneath these scabs.

*Examination.*—When he came for examination I found on the right cheek a sharply defined, oval, scarlike area which measured 2 by 4 cm. (Fig. 2). It was depressed about 0.5 mm. below the level of the surrounding skin and the edge rose rather abruptly. The sunken area was of a pinkish-red color, soft to the touch and was not bound down to the underlying tissues. Its surface was rather uneven and a few pinhead-sized inflammatory papules and crusts were present. The edge was slightly infiltrated and irregular. No raised pearly border was present.



*Symptoms.*—There was severe itching at times and the patient was continually picking and scratching the lesion. All kinds of local applications were used without benefit.

*CASE 3.\*—History.*—A woman, aged 50, had noticed about twenty years before a small spot above the left breast. This had gradually increased in size despite the use of all sorts of local applications.

*Symptoms.*—Occasionally the lesion would become very much irritated and at times would weep. Small pustules would frequently develop on its surface, and the itching was often so intense that the patient could not sleep at night.



Fig. 2 (Case 2).—Depressed, oval, scarlike epithelioma on the right cheek.

*Examination.*—When I first saw her I noted just above the left breast a circular lesion about 10 cm. in diameter (Fig. 3). It was light red in color and felt soft, and not indurated. The surface was slightly scaly and here and there were pinhead-sized inflammatory papules, some of which were covered with crusts. Along the edge of the lesion, over most of its course, there was a narrow, pearly, raised border about 1 mm. in width. This border was either continuous or made up of disconnected, pinhead-sized nodules which occasionally radiated toward the center in a spoke-like fashion. A few of these nodules were also scattered promiscuously over the surface of the lesion. In the center of the patch there was a hard nodule about 2 cm. in diameter. Its surface was smooth and over it were a number of dilated capillaries. This lesion had developed within the previous eighteen months. Four other reddish, irregular, scaly patches of a similar nature were found, which

\* I am indebted to Dr. Howard A. Kelly for permission to publish this case.

averaged about 2 cm. in diameter. One was on the flexor surface of the right arm at the bend of the elbow; one on the back of the neck just within the edge of the hair and the two others about the middle of the back (Fig. 4).

The pearly border was present in all of them to a variable degree except in the one on the neck. All over the shoulders and back, seborrheic warts of the nevoid type were found and scattered among these, or directly springing from them, were many pinhead-sized, pearly nodules, which were early epitheliomatous growths.



Fig. 3 (Case 3, front view).—Large, circular epithelioma situated just above the left breast. The lesion has a hard nodule in the center.

#### HISTOLOGIC EXAMINATION

CASE 1.—The small lesion (Fig. 1, *B*) was entirely excised with a wide margin and sections were cut throughout its entire length (Fig. 5. Hematoxylin and eosin stain). The width of the epidermis was about normal but most of the interpapillary bodies were flattened out. The cancerous tissue, in the whole length of the section, consisted of only about five or six small, irregular masses which were relatively widely separated and had invaded the cutis for only a short depth (Fig. 5, *aaa*). These masses sprang from the basal layer of the epidermis or hair follicles; they were sharply defined and composed of closely packed cells with round, oval or oat-shaped, dark-staining nuclei (Figs. 6 and 7). The epidermis lying over some of them showed a rarefaction of the cellular protoplasm with nuclear degeneration (Fig. 8).

The main portion of the pathologic formation was not made up of cancerous tissue but consisted of a dense small round-cell infiltration. The predominating cell of this infiltration was the *plasma cell* which was found in

densely packed masses, frequently showing a linear arrangement (Fig. 9). In other areas the majority of the cells were of the lymphoid type with dark-staining nuclei. This cellular infiltration extended to a depth of about one-half that of the hair follicles over the central half of the section. It gradually decreased in width peripherally, ending almost abruptly just within the outermost cancerous process on either side of the section. These outermost processes were surrounded by a narrow band of newly formed, cellular connective tissue.

In the immediate center of the section, over a small area, a considerable amount of fibrous tissue had formed, and there was a corresponding decrease in the number of small round cells (Fig. 5, C).

There were many dilated capillaries in the cellular infiltration and some of the outlying blood vessels showed a narrow mantle of plasma or lymphoid cells.



Fig. 4 (Case 3, back view).—Multiple epithelioma associated with numerous seborrheic warts.

The elastic tissue had been destroyed but the hair follicles and sebaceous glands were well preserved.

CASE 2.—Two pieces of tissue were excised for histologic study from opposite edges of the lesion.

*Specimen 1.*—(Fig. 10. Hematoxylin and Weigert's elastic tissue stain.) Over the growth the epidermis was thin and in some areas showed extranuclear and intranuclear vacuolation. A number of irregular and well defined masses of cancerous tissue had invaded the upper half of the cutis, some of which showed a definite connection with the basal layer of the epidermis. The nuclei of the cells composing the new formation were round, oval or oat-shaped and stained darker than the nuclei of the normal epidermal cells. The



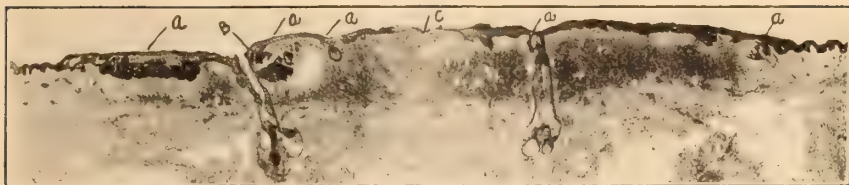


Fig. 5.—Section from Case 1 (Fig. 1, Lesion *A*). Epithelioma of the skin showing intense lymphoid and plasma-cell infiltration. Compare with small amount of cancerous tissue (*a a a*).



Fig. 6 (Enlargement of Fig. 5 at *B*).—*A*, epithelial proliferation from side of hair follicle; *B*, intense cellular infiltration composed chiefly of plasma cells. Cyst in center due to capillary hemorrhage.

outermost cells formed a single, regular row surrounding the cancerous processes which sharply separated them from the surrounding tissues (Fig. 11). Lying just beneath the epidermis there were several oblong, black staining masses which were the swollen, degenerating elastic tissue. The collagenous fibers had been practically replaced by a richly cellular connective tissue, which formed fibrous bands around the new epithelial growths. A few small collections of plasma or lymphoid cells were scattered throughout the lower half of the cutis.

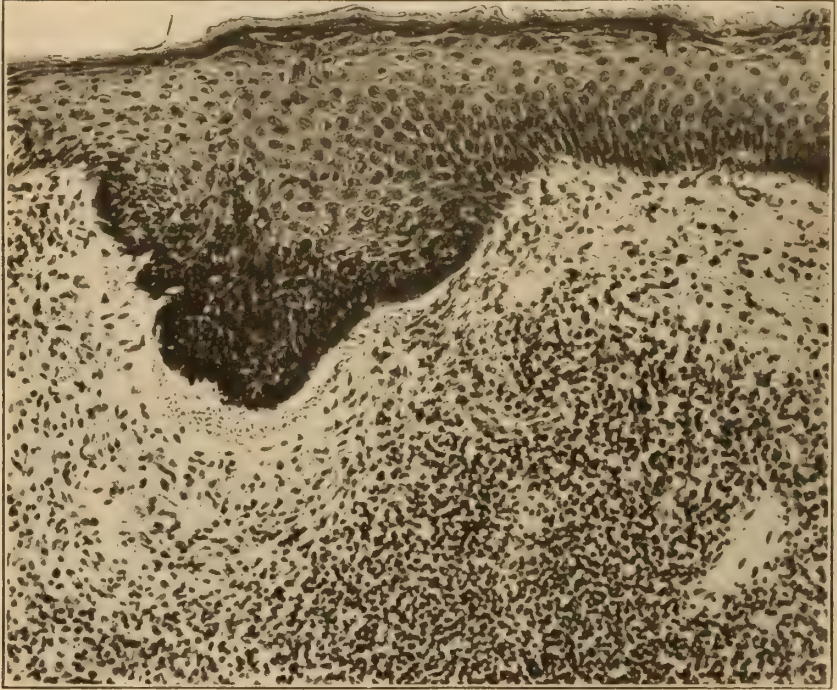


Fig. 7 (Enlargement from same series as Fig. 5).—Beginning cancer process surrounded by intense cellular infiltration. Note the sharp line of demarcation between the cancer cells and the epithelium.

The various changes produced in the cutis by the progressive growth of the tumor are shown in Figure 10. Toward the left of the section (*A*) which represents the tissue from the atrophic part of the cancer, the hair follicles, sebaceous glands and elastic tissue have all disappeared and have been replaced by dense fibrous tissue. Here, also, the cancerous processes are relatively few in number. The center of the section (*B*) represents the edge of the tumor and here the cancerous tissue is more abundant and the fibrous tissue more cellular. The hair follicles and sebaceous glands have, for the most part, disappeared, but the degenerated elastic tissue is still present. In the right portion of section (*C*) is the normal skin with its hair follicles and sebaceous glands intact. Here, however, degeneration of the elastic tissue is noted. (This degeneration is found normally on the faces of individuals past middle age and in this case is most likely due to causes other than the cancerous formation.)

*Specimen 2.*—(Fig. 12. Hematoxylin and eosin stain.) This section was taken from the edge of the tumor directly opposite the other section and cut serially. The findings here were somewhat different to those in Specimen 1. The cancerous processes showed a more intimate connection with the basal layer of the epidermis and hair follicles. The cells of the rete and granular layers, over many of the epithelial growths, showed an almost complete loss of protoplasm with nuclear degeneration. There was, comparatively, only a small amount of fibrous tissue and the hair follicles and sebaceous glands were in part preserved. The cellular infiltration was much more intense than in Specimen 1. Large collections of lymphoid and plasma cells were scattered about in the cutis.

No microscopic study was made in Case 3.

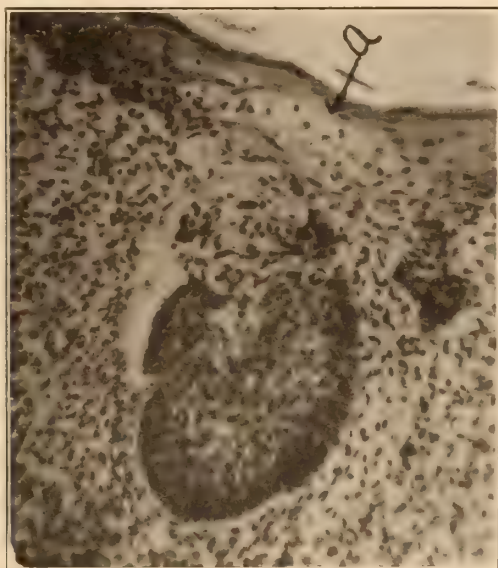


Fig. 8 (Case 1).—Degeneration of epithelium (A) lying over cancerous process.

#### COMMENT

These three cases, although differing in their clinical aspect, are examples of the most superficial forms of epithelioma of the skin. I do not believe that cancers of this type are especially rare, but they do not seem to be recognized adequately in our textbooks. Hazen<sup>1</sup> describes a scarlike cancer which resembles Case 2, but its characteristic induration was not present in my patient. Fordyce<sup>2</sup> states, that many cases of multiple epithelioma in the early stages may resemble Paget's disease and that red, scaling patches may be formed which reach the size of a man's hand. Case 3 resembles those described by Fordyce.

1. Hazen, H. H.: *Cancer of the Skin*, 1916.

2. Fordyce, J. A.: *The Pathology of Malignant Epithelial Growths of the Skin*, Jour. Am. Med. Assn., 1910, 55, p. 1624.



These superficial epitheliomas lack the induration and progressive ulceration characteristic of the usual types of basal-cell cancers. The proliferation of epithelial tissue is not great enough to cause definite tumor formation or to seriously interfere with the blood supply, which would result in necrosis and ulceration. Although there may be a definite excess of cancerous tissue microscopically, the coincident loss of the subepithelial structures have equalized this, so that there results a flat lesion; or, as in Case 2, this loss may exceed the excess

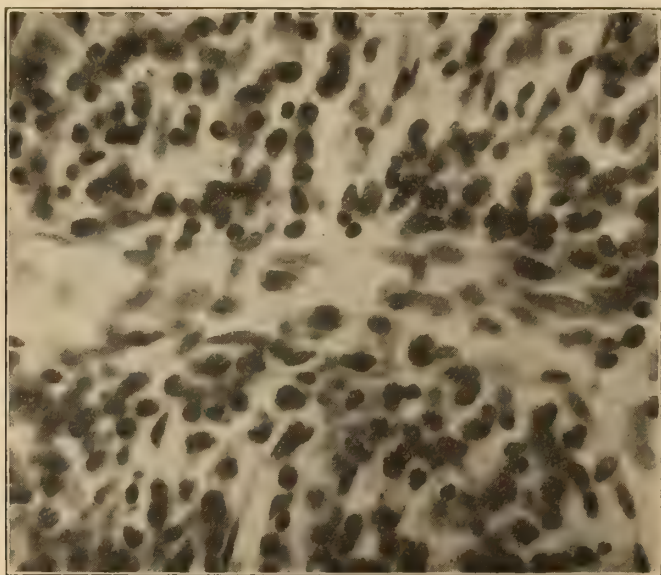


Fig. 9 (Case 1).—Showing character of cellular infiltration. Note the linear arrangement of the plasma cells.

so that we have atrophy. As the patches spread, partial healing takes place from the center with a varying degree of scar formation. As shown by the microscopic specimens, the epidermis over some of the cancerous processes may become degenerated and the small epithelial masses are most likely destroyed and expelled with the products of secondary infection. All of my cases occasionally showed small, pinhead-sized, crusted, superficial ulcers, or papules, scattered over the surface of the lesions which were no doubt the clinical manifestations of the process just described.

The dermatitis resulting from the superficial growth of these lesions, may result in intense itching and, as shown in Case 3, weeping, which are unusual symptoms for cancer of the skin, and may lead to a wrong diagnosis.

## COLOR OF THE LESIONS

The color of the lesions depends on the degree of secondary inflammatory reaction and especially on the amount and character of the cellular infiltration. The color in Cases 2 and 3 was pinkish-red, but in Case 1, it was the dark-red, raw ham color so characteristic of syphilis. This was most likely due to the intense plasma-cell infiltration which the sections from this case showed. Indeed these lesions were quantitatively much more like plasmomas of the skin than epitheliomas, and there was nothing, clinically, to suggest the latter diagnosis, except the pearly border on one side of the large patch.

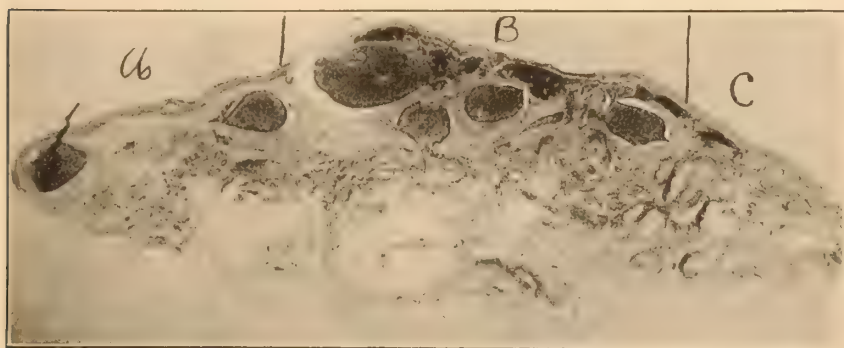


Fig. 10 (Case 2).—Epithelioma of the skin showing the cancerous processes surrounded by fibrous tissue.

## THE PEARLY BORDER OF GREAT DIAGNOSTIC VALUE

I wish to emphasize the importance, from a clinical diagnostic standpoint, of this pearly border which is characteristic of the basal-cell tumors in general. It may be entirely absent in some of the lesions, or, in others it may be so small as to escape ordinary observation, but when present it is pathognomonic of the disease. It represents an overgrowth of the epithelial cells usually at the edge of the advancing lesion, probably before the inhibitory functions of the newly invaded tissue have developed. It is interesting, however, to note that in Case 3 the pearly border of the large patch had off-shoots which radiated toward its center in spoke-like fashion, and over the surface of the lesion, discrete, pinhead-sized, pearly nodules were promiscuously scattered. This suggests the supposition that, as the disease spreads, cancerous processes were continually being developed and destroyed in the affected area. If any local immunity were conferred on the tissues at the first invasion, it was soon lost, and finally the resistance was overcome to such an extent that a nodular cancer of the usual type developed in the center of the lesion.

## ETIOLOGIC FACTORS

As to the origin of the disease in my patients, no lesions were found in Cases 1 and 2 which are usually regarded as of a precancerous nature. The scar, resulting from the cauterized mole in Case 1, might be considered of importance if the lesions were not multiple. In Case 3, however, the large number of seborrheic warts of the nevoid type, which were present over the chest and shoulders, were no doubt of importance in the stimulation of the epidermis to malignant growth. Fordyce asserts that these superficial cancers often develop on patches of seborrheic dermatitis, a fact that suggests some infectious agent.

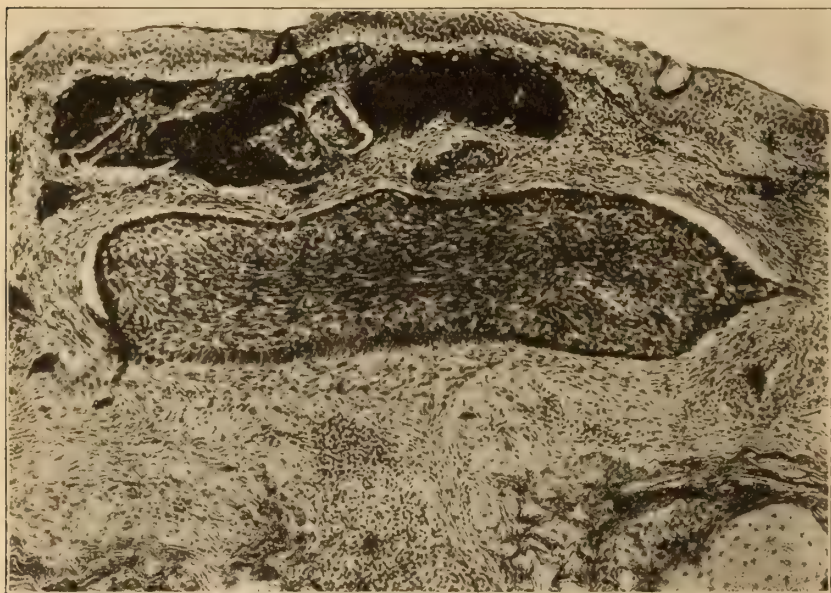


Fig. 11 (Case 2).—Note the cancer mass surrounded by fibrous tissue with a comparatively small amount of cellular infiltration. A, degenerated elastic tissue.

## INCIDENCE OF CELLULAR INFILTRATION

The histologic study of my cases, especially Case 1, which showed such an intense plasma-cell infiltration, suggests the question of secondary cellular infiltration in cancer, and its relation to malignancy, which I should like to consider very briefly. It is generally recognized that the tissues surrounding most cancers of the skin show a certain degree of cellular infiltration, and Unna,<sup>3</sup> Joannowicz,<sup>4</sup> and others, have pointed out that this infiltration is composed chiefly of plasma cells.

3. Unna: *The Histopathology of the Diseases of the Skin*, 1896.

4. Joannowicz: *Ueber das Vorkommen, die Bedeutung und Herkunft der Unna'schen Plasmazellen bei Verschiedenen Pathologischen Processen*, *Ztschr. f. Heilk.*, 1899, 20.



Borrmann,<sup>5</sup> who studied 265 cases of skin cancer, describes the infiltration as lymphocytic, but it is most likely that this author included the plasma cells with the lymphocytes. Some lesions, however show no cellular infiltration and in others only a portion of the cancerous processes may be infiltrated. (Unna,<sup>3</sup> Janeway,<sup>6</sup> Loeb and Sweek.<sup>7</sup>) The variableness in the quantity of this secondary cellular infiltration has led to the attempt to show an inverse relationship between it and the malignancy of the tumor, that is, it has been frequently stated that the most malignant tumors are those that show the least amount of cellular infiltration and vice versa. This is espe-

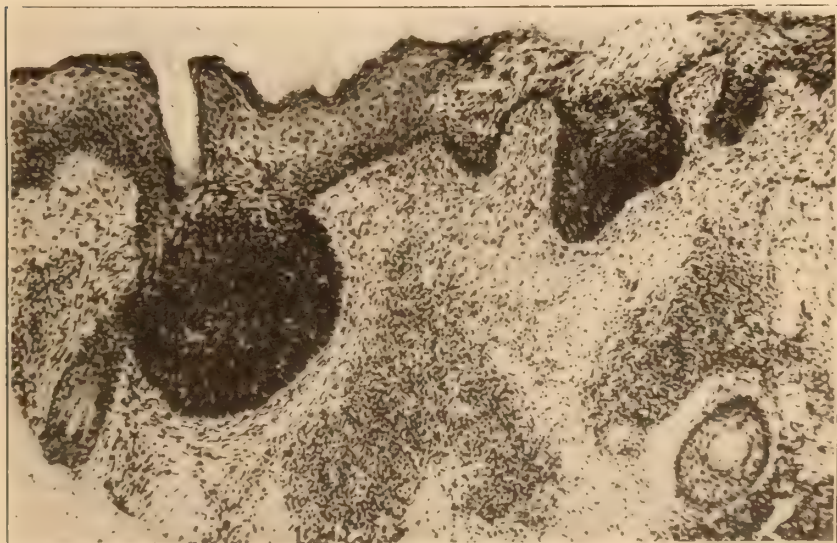


Fig. 12 (Case 2).—Shows degeneration of epidermal cells over cancerous processes and large amount of cellular infiltration as compared with Figure 10.

cially true, according to Unna,<sup>8</sup> of the metastatic lymph tract infarctions, and he explains the expression that “the broader the plasma cell wall the more benign the tumor,” in the following manner: He has found in his biochemical studies, that plasma cells are secondary oxygen sources. If the plasma cell wall surrounding an epithelial growth furnishes sufficient oxygen for its nourishment, a balance is established and the growth remains superficial.

5. Borrmann: Die Entstehung und das Wachstum des Hautcarcinoms, *Ztschr. f. Krebsforsch.*, No. 2, 1904.

6. Janeway, H. H.: A Contribution to the Knowledge of the Early Stages of Epithelioma of the Skin, *Ztschr. f. Krebsforsch.*, 1910, 8, p. 403.

7. Loeb and Sweek: Histogenesis of Multiple Carcinoma of the Skin, *Jour. Med. Research*, 1913, 28, p. 235.

8. Unna: *Biochemie der Haut*, Jena, 1913. Published by Gustav Fischer.

If, on the contrary, the plasma cell wall is absent or too small to furnish the required amount of oxygen, the tumor cells invade the deeper structures. This ingenious explanation, however, is not supported by the investigations of Prytek,<sup>9</sup> if we consider the basal-cell cancers as benign and the prickle-cell ones as malignant. Prytek examined thirty-eight cases of skin cancer as to the comparative amounts of plasma-cell infiltration in the basal and prickle-cell varieties. His results showed that there was no essential difference.

If, on the other hand, we consider the malignancy of the tumor from the standpoint of its power to invade the deeper tissues and not from its power to metastasize, the contention of Unna may be better supported. Case 1 certainly illustrates the maximum of cellular infiltration with the minimum of depth invasion and the study of Case 2 shows that the infiltration may vary considerably in different portions of the same tumor. If the infiltration varies in different portions of the same tumor, it may probably vary at different times in the growth of the tumor, the variation being perhaps dependent on its activity at that time. This would help to explain the variability in the amount of the cellular infiltration in tumors of like origin and rate of growth.

#### EXPERIMENTAL STUDIES

Observations in the experimental transplantation of cancer in rats have suggested a relation between cellular infiltration and immunity to cancer inoculation. Murphy and Morton<sup>10</sup> have shown that there is an intense small round-cell reaction about the graft in immune animals, but that this is absent in animals highly susceptible to inoculation.

Although the rôle played by the cellular infiltration about cancerous growth is not as yet established, one can but feel that its purpose is to inhibit the development of the cancerous tissue. Its influence, however, in most cases, is probably too small to cause any very appreciable effect on the growth of the tumor cells.

#### CONCLUSIONS

1. Basal-cell epitheliomas may occur as flat patches on the skin, spreading superficially, with little tendency to invade the deep layers of the corium. These patches lack the tumor formation and progressive ulceration characteristic of the usual forms of cancer.

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9. Prytek: Ueber die Plasmazellen Bei Epitheliomen der Haut, Arch. f. Dermat. u. Syph., 1914, 120, O., p. 611.

10. Murphy and Morton: The Lymphocyte as a Factor in Natural and Induced Resistance to Transplanted Cancer, Jour. Exper. Med., 1915, 22, p. 204.

2. The surfaces of the lesions often show small inflammatory papules or pustules and itching may be a troublesome symptom.

3. The color of the patches is partly dependent on the amount and character of the secondary small round-cell infiltration.

4. The only clinical sign which the lesions may show characteristic of the common forms of skin cancer is a raised, pearly border. This is, however, frequently absent and the diagnosis may be impossible without a histologic examination.

5. These superficial cancers are apparently insufficiently emphasized in our textbooks.

I wish to thank Dr. Gilchrist for his interest in the study of these cases.

900 St. Paul Street.

#### ABSTRACT OF DISCUSSION

DR. HENRY H. HAZEN, Washington, D. C.: I am reminded of the type of epithelioma presented by Dr. Morrow at Cincinnati, which he thought was analogous to the condition described by Bowen. Personally, I did not think so then and do not now; it is closer to that described by Dr. Ketron. The lesions are difficult to diagnose but the fact that they have a pearly border should be of assistance. The histologic structure was very interesting. We have had much discussion as to just from what structures basal-cell cancers originated. Dr. Sutton and I have stated that they originated from the basal cell and Dr. Heidingsfeld has emphasized the fact that they are more apt to come from the deeper structures. From these pictures it would seem certain that they originated from the basal cells.

Another interesting point is that some of these tumors, considering the fact that the invasion is so extremely superficial, must have had multicentric points of origin rather than unicentric and this would assist in explaining the appearance.

DR. FREDERICK G. HARRIS, Chicago: I think some of Dr. Ketron's cases belong in the Bowen type of epithelioma. I have seen a number of such cases; they are usually multiple and have this hard narrow border, with a marked tendency to heal as they spread. Dr. Shaffner exhibited a patient before the Chicago Dermatological Society with the same sort of lesions on the body, but on the scalp there was a large fungoid epithelioma. As to the point of origin, I differ with Dr. Hazen that these lesions come from the basal cell layer; I believe with Borrmann, that they originate in embryonic rests, where we have a large mass of cells such as is present here, with a small isthmus connecting it to the basal layer, showing that the direction of growth was upward. If the growth was downward, why would we have an isthmus of cells and then a sudden expansion below to form a mass of tissue? I think there is no question but that these growths are multicentric and Dr. Ketron was fortunate in having a case that showed this very well.

Regarding malignancy, I do not think it is right to consider that all basal cell cancers are benign and the squamous cell type malignant. We often see a squamous cell carcinoma in the face take a very benign course. I have been hoping that some one would study the early cancers of seborrheic type and determine whether they are basal or squamous cell growths.

DR. RICHARD L. SUTTON, Kansas City, Mo.: For many years some of us were in the same position as Dr. Harris and it requires papers of this kind to enlighten us. We are indebted to Bloodgood and to Hazen for a great deal of splendid work of an educational character along this line, but unfortunately there is still much to be done. The old term "rodent ulcer" should be dis-



carded, along with papilloma and similar loose-jointed expressions. To one who has given the matter any thought and study, there is as much difference between a prickle-cell cancer of the skin and one of the basal-cell type as there is between a coyote and a guinea-pig, and on us rests the responsibility of educating the general medical man along this line. The plasmoma shown in Dr. Ketron's sections is comparatively rare. A few years ago, while making a study of the histogenesis of basocellular carcinoma, I examined several thousand serial sections of tumors of this type. The work was undertaken to verify or disprove the findings of Janeway and of Loeb and Sweek, and at that time we concluded that the presence or absence of plasma cell infiltration did not influence the character or progress of the lesion. The clinical photograph of Case 3 resembles so-called morphea-like carcinoma of the skin.

The shape of the growth in the subcutaneous tissues is entirely dependent on the character and degree of resistance that it encounters during its passage downward. If the tissues are firm and resistant, as in young and comparatively healthy individuals, the mushroom-like cancer masses are acorn-shaped, or globular in outline. On the other hand, if the subcutaneous tissue is atrophic and the collagenous masses loosely interlaced, the projecting filaments creep downward between the fibrous bundles in long, finger-like filaments. In a case once referred to me by Dr. Frank J. Hall, the patient being a healthy young farmer with numerous lesions on his face and forehead, the subepidermal resistance was so great that the cancerous tissue was unable to penetrate the corium and was piled up beneath the epidermis, giving rise to irregular, crateriform masses resembling the decorations on a much ornamented birthday cake.

DR. AUGUSTUS RAVOGLI, Cincinnati: I cannot understand why these keratotic patches which we find so frequently on the face after people have passed middle life cannot be considered as a precancerous condition, as described by Bowen. I have a number of cases of epitheliomatous growths, which have begun with a kind of a hardness of the epidermis, with a rather brownish discoloration, and then gradually have begun to show superficial crusts and have exactly the appearance of an epithelioma with all its characteristics. I believe from some sections I have made that the spreading of the epithelial cells in the cancerous form have a great deal to do with the pores of the skin, with the sweat gland ducts and with the sebaceous gland ducts. I was reminded from the beautiful sections of Dr. Ketron that the epithelial cells centered all around the sebaceous gland, and I have found the same thing in my sections. In some sections I have found that the sweat glands are affected and that the infiltration extends deep into the coil glands and from there spreads and infiltrates the other parts of the corium.

As to the malignancy, I do not see a great deal of difference. The only difference is in the basal cell epithelioma or carcinoma that uniformly last several years without producing infection. The prickle-cell carcinoma produces infection and then death, and I think it would be much better if the basal-cell carcinoma would produce infection and bring the patient to death as soon as possible. I have in the Cincinnati Hospital a lady who has lost all of one cheek, the muscles and the teeth are all out, but she continues to live in this horrible condition. I had another man with an eye all taken out by this basal-cell carcinoma, which we say are benign because they do not produce death sooner.

DR. L. B. MOUNT, Albany, N. Y.: I have seen three of these cases in the last few months. In each of the three the diagnosis was not difficult because they all had this pearly border. One of the cases was a counterpart of Dr. Ketron's, with the nodules in the center and followed the scratching away of a wart. There was an area 2 by 3 inches with distinct nodules in the center. Scattered over the remaining portion were areas in which weeping had been present, because there were distinct yellowish crusts. The microscopic appearance of the one with nodules was quite interesting. The nodule was purely

basal in type, while the pearly border seemed to show in one portion a squamous type and in the other the basal. This case has not yet been studied in serial sections.

DR. K. A. ZURAWSKI, Chicago: I am very glad that these cases are rather rare in some parts of the country. In the west we find a lot of them. I could easily furnish records of hundreds of cases of this type. I want to bring out one point in connection with the seborrheic type of cases. I have not seen a single case where there were not traces of seborrhea, usually more or less distinct, and usually more rather than less. I have found in practically all the cases I have seen that this type of epithelioma occurred in people who were more or less given to pigmented deposits in the skin. I think you will find that many of the fair-haired, easily freckling individuals will develop this type of epithelioma in middle life.

As far as the malignancy of these cases is concerned, I agree with Dr. Ketron that they are not malignant although they do from time to time take on a malignant appearance.

DR. HENRY H. HAZEN, Washington, D. C.: I have studied 300 cases of epithelioma of the face originating from sebaceous keratoderma. In this series, although they came from the surgical clinic at Johns Hopkins University and were severe cases, between 5 and 7 per cent. only were prickle cell, 93 to 95 per cent. were basal cell. If Dr. Harris will look over the pictures in my book on skin cancer, he will find that the primary proliferation of the basal cell is in the rete and not below it. It is above the cylindrical line of basal cells which you find bordering it.

DR. LLOYD W. KETRON, Baltimore: As to the origin of these basal cell tumors, I made serial sections in one case which showed that the tumor cells grew from the root sheath of the hair follicle as well as the basal layer of the epidermis. When the hair follicle was affected, the upper third was the portion involved. I wish to emphasize these cases, especially, because they did not present the two most characteristic symptoms of skin cancer: induration and progressive ulceration. The reason I did not mention the morphea-like type was because it is usually described as being infiltrated and hard. The Bowen type, as I recall it, is a pre-epitheliomatous lesion. My cases are perfectly typical basal-cell cancers. If any type of epithelioma can be recognized histologically in its earliest stages it is the basal-cell type. There is sometimes difficulty in saying where malignancy begins when dealing with the prickle-cell variety, but the typical shape and staining reaction leaves very little doubt as to the identity of a basal-cell lesion.

## ELEPHANTIASIS VULVAE \*

A. RAVOGLI, M.D.

CINCINNATI

The name elephantiasis vulvae, although signifying nothing more than an enlargement and hypertrophy of the skin of the external genitalia, in reality represents a disease exhibiting a marked disproportion of the parts together with peculiar histologic alterations. These alterations have been found constantly in all cases and consist of a persistent edema, accumulation of serum in the lymph spaces, with a chronic formative inflammatory process. This produces a proliferation, a growth of the tissues forming a hard solid mass. It is found in the male, but in my experience it is more frequent in females, especially in old prostitutes for a long time affected with chronic ulcerative syphilids.

### DISTRIBUTION OF ELEPHANTIASIS

Elephantiasis of the typical form is endemic in certain tropical and subtropical countries, where it has been found to be the result of the entrance into the system of a parasite, *Filaria sanguinis hominis* (Lewis). The parasites are found abundantly in the lymphatics, and it seems that they obstruct the vessels either with their ova, or themselves causing lymph stasis, followed by proliferation of the connective tissues. The disease in all probability is a water-borne one, and the ova are very likely introduced with the drinking water. The onset of the disease is that of an acute febrile attack, with nausea, pain, especially in the groin and scrotum, followed by chyluria and severe swelling and congestion of the scrotum or of the labia. The enlargement reaches enormous proportions. The thickened and hypertrophic skin is infiltrated with lymphoid fluid, which oozes out from the cracks and fissures of the roughened epidermis. The exudation remaining in the folds of the skin causes an offensive odor. This kind of elephantiasis is very rare in our climate, and the cases which we usually find here have a different causation.

In our country we encounter the false or nonparasitic elephantiasis. The disproportioned parts are enlarged from the enormous increase of the connective tissues forming the derma, and the subcutaneous tissue elements. It is due to the stasis of the lymph in the lymph spaces from an obstruction of the lymphatic vessels. According to the nature and to the structure of the hypertrophied tissues

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involved by the disease, elephantiasis has been called *E. neuromatosa*, *angiomatosa*, *lymphangiectatica*, *lipomatosa* and *fibrosa*. As result of the changes taking place in the skin, the horny layer of the epidermis shows a kind of small papillary growth, covered with horny scales or plates, which resemble the skin of the elephant. It is really a lymphangiectasia; the lymph remains in the lymph spaces of the derma and in the areolae of the subcutaneous tissues, where it is organized, forming the base of the tumor.

#### ETIOLOGY

This condition is occasionally observed following syphilitic gummas and long-standing ulcerations of syphilitic and tuberculous nature, causing stasis of the lymph spaces and consequently a hard, permanent edema. I have had occasion to see cases of elephantiasis of the genitals in the male, but more frequently in the female, especially in old prostitutes suffering with a chronic ulcerative syphilid. In reference to race, I have found the disease occasionally in white females, but more often in colored women.

Extensive ulcers of the vulva with hypertrophy of the tissues have, on account of their resemblance to lupus, been described by Huguier<sup>1</sup> as *esthiomenes*, or *lupus vulvae*. Björling<sup>2</sup> has called them *esthiomenes*, but in his case the main trouble was a phagedenic ulcer of a destructive type, which by impaired circulation had caused the hypertrophy of the genitals. Brau<sup>3</sup> and Dubreuilh<sup>4</sup> described *esthiomenes* following a chronic ulcer on parts deeply altered in their nutrition, in persons in poor general condition. As result of the ulceration a chronic lymphangitis is produced, with stasis of the lymph and consequent hypertrophy of the tissues, leading to elephantiasis of the vulva. Lymphangitis aggravates the ulcer, which becomes incurable. Viatte<sup>5</sup> maintained that tuberculosis was a possible factor in the production of the ulcers of the vulva. Of two cases which were examined for tubercle bacilli, one gave positive results, wherefore he concluded that in many cases the ulcers are of tuberculous origin. In my opinion the influence of a mixed infection of tuberculosis and syphilis in maintaining the chronic and destructive character of these ulcers, cannot be denied. It could be supported by a case which I had under my observation in the City Hospital.

1. Huguier: *Mémoire sur l'Esthiomene ou dartre Rongeante de la Region Vulvo-Anale*, *Mémoire de l'Acad. de Med.*, 1848.

2. Björling, E.: *Arch. f. Dermat. u. Syph.*, 1915, 121, p. 646.

3. Brau, P.: *Nouveaux Essais sur l'Esthiomene*, Thèse de Bordeaux, 1894; Quoted by Björling.

4. Dubreuilh: *Esthiomene*, *La Pratique dermatologique*, Paris, 1900.

5. Viatte, G.: *Klinische und Histologische Untersuchungen über Lupus Vulvae*, *Inaug. Diss.*, Leipsig, 1891; Quoted by Björling.

A colored prostitute, aged 28, had been affected with lupus vulgaris of the nose, cheeks and upper lip since her childhood. Under treatment the ulcerated nodules had healed, leaving scars and a few active tubercles. She was assigned to my service on account of a deep phagedenic ulcer of the genitals. The ulcer was hard, with thickened edges, involving the anterior wall of the vagina to the urethra and to the left lymph. The labia majora were edematous. The woman had been in the same service for syphilitic manifestations; the Wassermann test was positive and the lesion was considered to be the result of a syphilitic gumma. She had a severe cough and was found to be suffering from pulmonary tuberculosis. The woman suddenly became ill with peritonitis and died. The necropsy revealed diffuse tuberculous peritonitis.

In the case just cited it cannot be denied that the two infections were acting together.

Koch<sup>6</sup> refers to chronic ulcers of the vulva as the consequence of the impaired action of the inguinal lymph glands. In his cases the glands had been destroyed by suppurative processes, or had been removed.

Similarly Bandler<sup>7</sup> considers lymph congestion the responsible factor; the lymph flow when obstructed, infiltrates the tissues, causing persistent edema, which produces elephantiasis. The glands are not always affected or destroyed by suppuration, but in many cases they become sclerotic from a syphilitic process. The last two named authors see in elephantiasis two processes: one in the lymph stasis, causing thickening and infiltration of the tissues, and the other in an inflammation from traumatism and from the irritation of normal and abnormal secretions.

Many authors have reported cases of elephantiasis of the penis and scrotum following the removal of the inguinal glands. In hospital and in private practice I have removed inguinal glands quite frequently on account of large bubos from mixed infection. Only in a few cases did I observe edema of the penis and scrotum result, but it was only temporary. In a few days the skin returned to its normal condition as soon as the circulation of the lymph had been reestablished. In women affected with elephantiasis of the external genitals no inguinal glands had been removed. The glands were somewhat enlarged and hard, as is usually found in those who have suffered syphilitic infection and have been insufficiently treated.

#### AUTHOR'S OBSERVATIONS AS TO THE ETIOLOGY

From my experience I can state that extensive chronic ulcers of the genitals of the phagedenic type in women are the result of multiple syphilitic gummas, or of diffused gummatous infiltrations. In some cases the infiltration may be reabsorbed, leaving a thick, heavy scar tissue in consequence of the proliferation of the connective tissue of

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6. Koch: Ueber das Ulcus Vulvae (Chronicum Elephantiacum), Arch. f. Dermat. u. Syph., 1896, 34, p. 205.

7. Bandler: Arch. f. Dermat. u. Syph., 1898, 43, p. 28.

the derma; but usually the infiltration, undergoing degeneration, breaks down, causing deep ulcers with hard infiltrated bases and thick edges, covered with granulations. These ulcers have a tendency to increase their surface by destruction of the skin, and for a long time they do not yield to local treatment.

The ulcerative process constitutes an open door and a breeding place for secondary infectious elements, which cause chronic plastic lymphangitis. Even the dead leukocytes may be the cause of plugging the lymph vessels and so cause elephantiasis of the vulva. The veins, too, are not spared in the process; in several cases we have found phlebitis of the internal saphena, as result of this secondary infection. In this case the congestion of the venous blood increases the stasis and the proliferation of the tissues.

From these observations one may draw the conclusion that in my cases, elephantiasis consists of a chronic hyperplasia of the connective tissues of the skin and of the subcutaneous tissues from a lymph stasis. The passive congestion causes the effusion of serum from the blood and lymph vessels together with white cells, which, infiltrating the tissue elements, produce hyperplasia and consequently disproportion of the parts. This disproportion varies with the different degrees of intensity of the disease. The same process affecting the papillary layer of the derma causes the proliferation of the papillae in the form of small warts on the elephantiasic surface. That syphilis is the most obvious factor in the production of elephantiasis cannot be doubted. If we consider that in the very initial stage, the hard chancre produces edema of the labium, which is characterized by resistance and hardness, called *edema sclereum* by Fournier, we realize it is not entirely different from the permanent edema which precedes the elephantiasis. In both instances the principal cause is lymphangitis, which prevents the progress of the lymph, whereby the lymph spaces and the lymphatic vessels infected with spirochetes, are occluded by the resulting inflammation. The *edema sclereum* resulting from the initial chancre is only temporary and after the healing of the chancre, disappears. Elephantiasis which develops after or during the tertiary phagedenic ulcers is permanent and has a tendency to increase rather than to diminish. The process is slow and tardy.

In some cases of elephantiasis the streptococcic infection is at the bottom of the process: it starts the lymphangitis, which is recurrent. In my case no streptococci were found. The theory of Maurel, relating to the rôle of the dead leukocytes as causative factors in elephantiasis, can be taken under consideration. Leukocytes in the tissues in the presence of toxic agents die, and the dead leukocytes remaining in the lymph spaces are capable of producing alterations similar to those of a bacterial infection.



## REPORT OF CASE

*History.*—The illustration (Fig. 1) shows the condition of the genitals of the patient H. W., female, aged 28, colored, who was admitted to the venereal department of the Cincinnati General Hospital, April 9, 1917. She does not know much about her parents; three sisters and two brothers were dead. She had gonorrhea for a long time, and three years ago she was infected with syphilis. She states that not long after she contracted syphilis, the labia began to swell. She was suffering then with fever, nausea and rheumatic pains, together with painful swelling of the genitals. She could scarcely walk on account of the tumor, and the nauseous odor prevented her from associating with others, so she decided to seek relief in the hospital.

*Examination.*—At the time of her admission she was rather thin, but in general well built. No signs of syphilis could be found on her body with the exception of slight alopecia and enlarged cervical glands. Chest: Slight dullness on the left side. Heart: Normal. Abdomen: Normal. The urine was negative and the Wassermann test was positive. No gonococci were found in the vaginal secretion. The labia majora resembled two round, hard spheres of the size of a small orange. The left was somewhat larger, oval in shape, the surface uneven, with hard papillomatous granulations emerging from the principal mass. Between the granulations were grooves which were moist, exuding serum. The clitoris was enlarged and elongated in the form of a triangular tumor, formed by a mass of granulations of the size of small cherries. The clitoris was compressed between the enlarged labia. At the posterior commissure a round tumor protruded between the labia; this was hard, well limited, and similar to the other tumors.

*Operative Treatment.*—April 16, she was operated on under ether, general anesthesia. The clitoris was removed just at the point where the prepuce is in contact with it. Then the labia were removed by means of two incisions, one at the external and one at the internal side. The incisions were made from below upward so that when the tumors were ablated the remaining skin formed an angle. Finally the tumor at the posterior commissure was removed. The blood vessels were tied, and the surfaces of the wound were sewn together with catgut.

*Results.*—She was getting along well until May 5, when fever and a pleuritis on the left side developed. It was necessary to tap the pleural cavity and 1,200 c.c. of serum were removed. The patient since then kept on improving and, on May 24, was discharged from the hospital service. In order to keep a record of the results, the photograph (Fig. 2) of the external genitalia was taken, which shows a good scar.

## CONSIDERATIONS ON NOSOLOGY

The enlarged brownish labia majora showed a passive congestion. They were covered with papillary growths which are so common in elephantiasis also of the scrotum and of the legs, representing a chronic papillary dermatitis. The growth at the posterior commissures is not peculiar to this case. I have found it also in other cases in the form of hard, lumpy growths originating from the fourchet or from the posterior vaginal orifice. This region is often the seat of ulcers, and in old prostitutes it often shows cicatricial tissue. These parts are kept constantly moist with an abundant exudation of a nauseous, offensive odor.

Ulcerated gummas and tertiary syphilitic ulcers from infiltrated gummatous elements, on a callous base with papillary vegetations, have no tendency to heal in spite of the general antisyphilitic treatment and of local applications. In some cases with a phagedenic ulcerative process, the sphincter bulges, is swollen, and the mucous membrane of the rectum becomes hypertrophic and covered with granulations. In cases of this kind, on account of rhagades and ulcerations, abscesses are formed which may give rise to fistulas between the rectum and the vagina. It may be difficult to separate the labia on account of the hardened and swollen condition. The labia minora in some instances may be hypertrophied, in others they have been destroyed by the ulcerative process, or may have disappeared because of the pressure of the elephantiasic masses of the labia majora. In one such patient the vagina was not much damaged, but in another, the ostium was reduced to an irregular opening with sclerotic edges, making it impossible to introduce the speculum. The urethra was not involved, but sometimes the urethral orifice is swollen and the mucosa proliferates, causing frequent micturition.

#### PATHOLOGIC ANATOMY

The specimens were taken from the clitoris, hardened in 4 per cent. formaldehyd, mounted in celloidin and cut in sections. The sections were stained with hematoxylin and eosin.

Under the microscope the epithelium was observed to be greatly hypertrophied, the papillae enlarged, showing an entirely different histologic structure from that of condyloma acuminatum. Under a low power the collagenous bundles of the derma were seen to be enlarged, forming loculi or areolae of different sizes. Infiltration of small cells was noted in the whole specimen, mostly aggregated about the areolae. The collagenous bundles of the derma were enlarged and thickened by an increase of connective tissue cells.

The same specimen under a more powerful enlargement showed more clearly the areolae which form the stroma of the hypertrophied tissues. Between the fibers of the connective tissues, infiltrating mononuclear cells were seen. The areolae were filled with an amorphous substance of gelatinous character, due very likely to the coagulation of the lymph. The presence of plasma cells shows the process to have a tendency to neoplastic formation. Under the continued stasis of the lymph and of the blood the infiltrated tissues proliferate. The muscles of the skin, at first hypertrophic, later become atrophic, and are destroyed by the connective tissue fibers which, at first increasing, contract and compress the other tissues (Bosellini). The sweat glands, at first hypertrophic, are not found in old cases.

Groups of veins are frequently found enlarged and congested. They are surrounded by connective tissue fibers. Around the arteries infiltration is more apparent, and their walls are thickened and unequal. The alterations of the vessels point to a syphilitic condition of arteritis and peri-arteritis. The same alterations were found by Dujarier and Laroche, Purslow, and Daniel.

The congestion of the veins, together with their enlargement, may be the cause of the stasis of the lymph, as pointed out by Forgeu and Massabeau.

#### CAUSE OF THE LYMPH STASIS

I believe that the dilated condition of the lymph spaces and the hardening of the lymph vessels is the real cause of the lymph stasis. This was shown by Bosellini<sup>8</sup> and Ravogli.<sup>9</sup> The lymph vessels are plugged by fibrinous coaguli due to a local obstructive process. The inguinal lymph glands from the syphilitic infection become sclerotic, and are no longer capable of filtering the lymph. Therefore, they take part in a process of stasis together with the lymphatic vessels of the external genital region.

The morbid process rests on a chronic inflammation and on a stasis of the lymph from the syphilitic infiltration. This opinion was maintained by Fenger,<sup>10</sup> who, in a case of elephantiasis of the penis and scrotum, found the most important pathologic feature in the thickening of the blood vessels, dilatation of the veins, together with enlargement of the lymph spaces and of the lymph vessels.

#### CAUSES OF NONFILARIAL ELEPHANTIASIS

The elephantiasic process of nonfilarial origin is not always due to syphilis, but may result from streptococcic infection, *Plasmodium malariae*, pneumococci, and tuberculosis. In some cases the causation of elephantiasis remains unexplained as in those apparently of hereditary origin, described by Savill, and those attributed to a trophoneurotic origin, as described by Richardiere and Guyot.

Blaschko<sup>11</sup> demonstrated spirochetes in syphilitic tissues; this would lead to the possibility that their presence in the lymph vessels and in the lymph spaces is the cause of elephantiasis. In all my cases of elephantiasis of the genitals, I have found the disease to be the result

8. Bosellini: *Giornale italiano delle malattie veneree e della pelle*, 1915, 56, Fasc. 6, p. 487.

9. Ravogli: *Elephantiasis of Penis and Scrotum Due to Syphilis*, *THE JOURNAL CUTAN. DIS.*, 1907, 25, p. 61.

10. Fenger: *Arch. f. Dermat. u. Syph.*, 1892, 24, p. 834.

11. Blaschko: *Ueber Spirachaeten Befunde in Syphilitische Erkrankten* Gewebe, *Berl. med. Klin.*, 1906, 13.



of extensive ulcerative processes of tertiary syphilitic nature. We cannot exclude the possibility of the presence of tuberculosis, which either locally or in the general system, acting with syphilis, may give to the ulcers a more destructive character. We have seen tuberculosis associated with syphilis and when syphilis is severe, tuberculosis usually increases its virulence.

Syphilitic processes in all stages have a tendency to induce lymphatic stasis. Edema induratum accompanies the initial lesion as a firm edema; like the infiltration of the skin and subcutaneous tissues of the genitals, it often complicates the lesions of constitutional syphilis, and reappears with the tertiary manifestations. The cause is a specific inflammatory process of the lymph vessels causing occlusion of the lymphatics by coagulation of the lymph, which may be the result of the biological functions of the spirochetes.

In the early period of syphilis, the specific edema slowly but steadily subsides under local and general treatment. In the late period, when affecting the genitals, it is persistent, slowly grows until it may reach monstrous proportions.

#### TREATMENT

*Internal.*—In my experience internal specific treatment consisting of mercury or of arsenic has given no results. Wassermann tests, in some cases, have been slightly positive, and in others, negative. According to the general condition of the patient, mild specific treatment, as small doses of calomel, inunctions with gray ointment, intramuscular injections with gray oil, together with the internal administration of potassium and sodium iodids, are very useful. This treatment has to be combined with tonic and ferruginous preparations, to improve the general nutrition.

*External.*—Local applications have been of no benefit. A solution of borate of sodium or a mild solution of bichlorid of mercury in the form of compresses, may relieve the tension, and the application of pads of gauze with some talc powder will prevent friction of the surfaces. Surgical treatment usually must be employed. The extensive ulcers have to be curetted, cleaned and treated with bichlorid or iodoform gauze.

*Surgical.*—The elephantiasic organs have to be removed. The skin should be conserved as much as possible. When the elephantiasic tissues have been removed the skin is sewn together. Healing takes place without any difficulty. In all my cases I have obtained fairly good results, the patients have been seen again after two or three years, and relapses did not occur.

## EXPLANATION OF ILLUSTRATIONS

Fig. 1.—Enormous elephantiasic enlargement of the vulva following syphilitic infection superimposed on a gonorrheal infection of long standing. The labia majora are about the size of a small orange and are covered with papillomatous granulations.

Fig. 2.—Showing the condition in the same patient after reduction of the elephantiasic enlargement by surgical removal. Entire amputation of the clitoris and labia was performed.



Figure 1



Figure 2



## SYPHILIS OF THE TONGUE

GEORGE D. CULVER, M.D.

SAN FRANCISCO

The striking incidence of a large percentage of negative Wassermann reactions of the blood serum in chronic specific glossitis and an equally interesting rapid yielding to arsenical medication after stubborn resistance to mercury and potassium iodid, led the writer to an investigation of his cases of syphilis of the tongue.

### FREQUENCY OF TONGUE INVOLVEMENT

Among 530 instances of syphilis seen in private practice, the tongue was involved in twenty-seven (5.09 per cent). There were sixty-two cases with mouth involvement, not including instances of syphilitic angina. Therefore, the tongue was affected in nearly one-half of the mouth cases, and in the greater proportion of the lingual cases the disease was limited to the tongue.

Of these twenty-seven cases, twenty-three were males and four were females. There was one instance of lingual chancre, nine instances with mucous patches, eight with gumma, nine with chronic specific glossitis, including leukoplakia, four having leukoplakia associated with other phases of chronic specific glossitis.

The single instance of chancre of the tongue occurred in a girl; it was one case in twenty-seven extragenital chancres; it was situated on the dorsal surface near the median line, 2 cm. from the tip; and it had been present ten weeks, healing slowly and unrecognized until after the development of florid secondaries. Though lingual chancre is comparatively uncommon, the diagnostician should not fail to recognize the lesion when it does occur. If he considers the possibility, he need have little difficulty in proving the diagnosis.

### MUCOUS PATCHES ON THE TONGUE

The nine instances of mucous patches on the tongue were in a group of twenty-one cases with buccal mucous patches, in which forty-three locations were involved. As 196 of the whole group of 530 cases were classed as having early stages of the disease, it will be noted that in excess of one-tenth of these early cases mucous patches were present. No other part within the oral cavity was involved a greater number of times than the tongue. As a possible commentary on the successfulness of arsenobenzol medication, it was found that

the number of early cases which presented mucous patches in the mouth was greater before the advent of the arsenical preparations than after, in the proportion of eleven to nine.

A mucous patch or superficial ulceration of early syphilis on the tongue is no more difficult of recognition than when situated elsewhere on the mucous membranes, and it is not the type of lesion so likely to be the only syphilitic manifestation as is a gumma or the lesions of chronic specific glossitis to be described later.

#### GUMMAS OF THE TONGUE

Six males and two females had lingual gummas. In all these eight cases the shortness of duration was striking. They ranged from one-half month to six months, an average of two and one-half months, indicating that a gumma on the tongue as elsewhere in the oral cavity grows rapidly. One may account largely for the short average duration of time preceding consultation by the fact that the patient considers such a lesion in this location seriously, and seeks treatment early.

A gumma may begin either in the body of the tongue as a submucous gumma, or as a miliary gumma within its mucous membrane. If submucous, the patient's warning is usually early with sensitiveness or pain. At first the growth feels quite firm, but as it soon softens in the center, by the time the physician sees it, it has a doughy feel, and, before necrosis occurs, it will give rise to an elevation on the dorsal surface. The gumma has a resilient induration, not the boardy hardness of an epithelioma. When necrotic, it usually breaks on the dorsal surface and gives rise to a deep, ragged, undermined ulcer in this location with a rim of induration about it, still lacking the cartilaginous hardness of an epithelioma. There may be and often is more than one gumma present.

Miliary gummas beginning in the lingual mucous membrane are painful early, they ulcerate quickly and have typical infiltrated edges. The edges of these are harder than those of ulcerations from the deeper seated gummas and the bases are less spongily necrotic. Clinically, it may be extremely difficult to distinguish from an epitheliomatous ulcer which is too early to be associated with lymphatic enlargement. A biopsy is indicated when doubt arises.

An absence of lymphatic enlargement with gummas is the rule, but not a constant one. In an instance, in which there were distinctly palpable nodules under the jaw, it was surmised that superadded pyogenic infection was the probable cause.

All the patients who had gummas with but one exception gave positive histories, and in only one was there a negative Wassermann reaction. The one with a negative Wassermann reaction gave a dis-

tinct history of having had syphilis. Judging from these facts, it should not be difficult to determine when antisyphilitic medication is indicated. Potassium iodid, as with most gummatous lesions, is very effective in these cases, acting perhaps as quickly in producing an improvement as does arsphenamin (salvarsan). It must always be considered that syphilis and epithelioma of the tongue may be associated. One of the most interesting instances of this was reported by Drs. Montgomery and Sherman.<sup>1</sup> This was true with one of the eight cases of gumma of the tongue. The patient was a man, aged 64, who stated that the lesion began two months before on the right side near the base of the tongue. When first seen in consultation, he presented a large necrotic ulcer in this location. The ulcer had a black floor, firm overhanging edges, and a foul odor. There was a positive history of infection forty-five years before and his blood gave a markedly positive Wassermann reaction. Histologically, at this time, there was a predominance of round cell infiltration and thickening of blood vessel walls. Epitheliomatous areas were not found. The pathologist concluded it was purely a gumma and it may then have been. Intensive treatment produced a great improvement, but not a complete disappearance of the ulcer. Four months later there were present, in the mucous membrane of the back of the tongue, hard, light red nodules which had the stellate-like capillaries of an epithelioma. These nodules proved to be epitheliomatous and the patient succumbed to the disease. The indications in this case were that the lesion began as a gumma and eventuated in an epithelioma.

#### LEUKOPLAKIA SYPHILITICA

Syphilitic leukoplakia of the tongue is here considered in a few words. It was actually a much rarer occurrence than I expected to find, appearing in only four cases (14.81 per cent.) of the twenty-seven with lingual syphilis. In each instance it was associated with other phases of syphilitic glossitis. It would seem to be one of the rarer syphilitic manifestations affecting the mucous membranes. Once well established it persists in spite of ordinary treatment. Of the antisyphilitic remedies arsphenamin (salvarsan) influences it most. It is also influenced by roentgen-ray exposures, but best of all is the action of radium. Radium would seem to have first choice for the immediate eradication of leukoplakia no matter what the etiology.

In one of the four instances in which leukoplakia was present it was of especial interest. The patient was a young man, aged 22, whose tongue in addition to presenting the distinct leukoplasic patch,

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1. MONTGOMERY, D. W., AND SHERMAN, H. M.: A Combination of Syphilis and Epithelioma of the Tongue. *THE JOURN. CUTAN. DIS.*, Dec., 1906.



had further evidences of chronic specific glossitis in the form of a sensitive opalescent edge with infiltration and slight fissuring. There was a markedly positive Wassermann reaction of the blood serum. The patient gave a history of a sore acquired at 16 years of age. He had a strong impression that the leukoplakia antedated this by two years, but he may have been in error. The leukoplakia was eradicated with radium.

It might be inferred that since leukoplakia does not give rise to discomfort it would often be missed and not recorded. I have made it a general practice to carefully inspect the mouth in all patients, which procedure in a dermatological practice frequently gives surprises and as frequently enables one to clinch a diagnosis, as in lichen planus or lupus erythematosus.

#### CHRONIC SPECIFIC GLOSSITIS

There are many characteristics of chronic specific glossitis which make this form of syphilis stand out distinctively. Nine patients, one-third the entire number of syphilitic tongue cases, sought relief for this affection. Eight were males. A brief account of each follows:

#### REPORT OF CASES

**CASE 1.**—A man, aged 50, in January, 1910, had two small excoriations on the left side of the tongue. There was some swelling in this area and marked sensitiveness to wine and to contact with rough foods. Later there developed a furrowlike erosion running perpendicularly on the left side opposite the molars. There was slight leukoplakia in this situation. Still later the lesion became a disk, flecked with white, with a fissure running across it. A number of warty tags developed in this location. These changes occurred while the patient was under observation a year. There had been an aversion to intensive medication and especially to arsphenamin (salvarsan). No adenopathy. The Wassermann reaction was positive.

There had been other syphilitic manifestations previous to the appearance of the tongue affections, and the patient's former physician stated that infection occurred twenty-one years before. Finally arsphenamin (salvarsan) was administered and a rapid disappearance of the tongue lesions followed.

**CASE 2.**—A man, aged 32, in August, 1912, had soreness of the tongue, where two excoriated cracks were situated well forward on the left edge. This area had an even milky opalescence. A still larger irregular rectangular area was denuded of papillae. It was very sensitive to sharp foods. Soreness was first noticed one year before. There were no other signs of syphilis. No adenopathy. Wassermann reaction negative. History of infection five years before. Cleared up readily under arsphenamin (salvarsan).

**CASE 3.**—A man, aged 33, in November, 1912, had a leukoplakia of the whole of the dorsum of the tongue. The median furrow was very deep. There were a number of nodules in the left side which, though soft, lumped up the whole of this part and gave the impression of a tumor. It was apparently not gummatous. In front of this mass of nodules there was a patch covered with dirty gray papillomas on a slightly raised base. On the dorsum of the right side there was a deepening of the leukoplakia where it was thickened to almost a wartlike surface. On the left edge there were opalescent areas and tags of

hypertrophied tissue. The tongue was very painful. There was no adenopathy. The Wassermann reaction was negative. The patient gave a history of "soft chancre" fourteen years before. He first noticed a white patch in the mouth in 1900, associated with a stubborn sore at the right corner of the mouth. The tongue became sore five years before he came in for treatment. Under medication with arsphenamin (salvarsan), mercury and potassium iodid, all erosions healed quickly and improvement was marked. Five years later the tongue was leukoplasic, but there were no subjective symptoms.

CASE 4.—A man, aged 37, in February, 1913, had rough uneven edges of the tongue with fissuring on the right side. Both edges had irregular patches of milky coating. The condition began two years before. The tongue was very sensitive. No adenopathy. The patient had a large flat syphilitic papule on the cutaneous surface of the prepuce which had been present two months. Syphilis was contracted five years before. The Wassermann reaction was positive. Within three weeks after arsphenamin (salvarsan) infusion, and during mercurial medication, the tongue became objectively and subjectively normal.

CASE 5.—A woman, aged 36, in May, 1913, had glossy smooth patches on the tip of the tongue and the right edge. These were markedly sensitive. They first appeared nearly two years before. No adenopathy. Wassermann test positive. History of infection seven years before. The tongue lesions were healed six days after arsphenamin (salvarsan) infusion.

CASE 6.—A man, aged 31, in May, 1913, had a circular lesion about  $1\frac{1}{2}$  cm. in diameter on the right side of the tongue. The circle was dead white and the area inclosed by it was knobby. The tips of the papillae in the neighborhood were white. This distinct area appeared about six weeks before. The tongue had been sensitive and uncomfortable for over a year. The voice had been husky for several months. No adenopathy. Wassermann test positive. The patient at first refused arsenical medication. Antisyphilitic treatment with mercury and potassium iodid was unsuccessful. Later the tongue cleared quickly after an infusion of arsphenamin (salvarsan).

CASE 7.—A man, aged 58, in May, 1914, had an irregularly shaped lesion on the dorsum of the tongue which was indurated to cartilaginous hardness. It began seven years before. There were opalescent spots with depressed centers on the left side, and two spots covered with sodden epithelium on the right side. The tongue was markedly sensitive to acids. There was no adenopathy. Repeated Wassermann tests of the blood serum had been misleading as was the ineffectiveness of medication with mercury and potassium iodid. Fifteen days after an infusion of arsphenamin (salvarsan) the tongue was apparently free from any active process. Four years later the tongue looked perfectly well. There was slight scarring where the indurated lesion on the dorsum had been.

CASE 8.—A man, aged 36, in November, 1916, had a bald area on the dorsum of the tongue anteriorly, with fissuring and marked sensitiveness. The lesion first appeared nine years before. No adenopathy. No history of infection. The Wassermann test was positive. Healing took place quickly under arsphenamin (salvarsan) medication.

CASE 9.—A man, aged 22, in May, 1917, had a finger nail-sized thickened patch of leukoplakia which he said had been present for eight years. The left edge of the tongue was opalescent, slightly fissured and sensitive. No adenopathy. Wassermann test positive. There was an indefinite history of infection dated back six years, whereas the patient believed the leukoplakia began two years before that. The leukoplakia yielded to radium exposure.

## COMMENT

A long enduring syphilitic glossitis may present a composite picture. On the dorsum may be seen areas of induration with cicatrices adjoining, depressed opalescent spots, sodden epithelial surfaced areas, others bald of papillae, fissuring, soft nodules singly or in groups, and irregular leukoplastic patches of glazed appearance or thickened to a leathery or even wartlike surface. As characteristic as any feature is the markedly sensitive edge of the tongue on both sides or more frequently limited to one side. When examined it will be found to be opalescent or of milky whiteness, and shallow or deep longitudinal or transverse fissures will be present. The deeper the fissures the greater the pain, as may be inferred. The edges of these grooves are infiltrated, often reddened, and the whole area may be inflamed. Indurated areas are sensitive to pressure and to contact with rough foods. Along the edge posteriorly it is not uncommon to find a rugous surface and there may be warty tags. The symptom of sensitiveness was present to a greater or less degree in all the nine instances of this form of syphilis.

In diagnosing the condition any mechanical irritation such as from a jagged tooth, a bridge or plate must be considered. A lesion produced in this way may be chronic and may simulate a syphilitic lesion though it will not present the rather striking opalescence nor the fissuring. It will more likely be an ulcerated lesion limited to the irritated spot.

## DIFFERENTIAL DIAGNOSIS

Specific chronic glossitis has been mistaken for malignancy. An infiltrated lesion which, on the dorsum of the tongue, may in structure be the counterpart of a serpiginous syphilid of the glabrous surface, may closely simulate an epithelioma. A more rapid growth if epitheliomatous would be expected than is true of the syphilid and an epithelioma would feel harder. One would more likely be confused in distinguishing a gumma from an epithelioma than with the above type of the disease.

Lichen planus of the tongue when chronic may simulate syphilis and may be especially puzzling when the tongue only is affected. In lichen planus the area affected may be a leukoplastic patch, but on close scrutiny the periphery will be seen to have a lace-work appearance and will present white topped papules. Any discrete papules at the edge will be the distinct white papules of a moist surface.

Lupus erythematosus of the tongue alone is so rare it need hardly be mentioned in a differential diagnosis. When it affects the mucous membrane it appears as an excoriation, the surface is reddened or dull and sodden, the edges are irregular and ragged, and the surrounding area is of a duller leukoplastic type, unlike the milky whiteness of the



specific leukoplakia. The characteristic glistening seen in all the opalescent areas caused by syphilis is absent.

There is still another very definite tongue condition, of which I have seen three instances, that must be considered in making a diagnosis. It is a condition manifesting itself as a persistent burning and a sensitiveness to sharp liquids which in the three instances was limited to an area on one edge of the tongue not larger than a 10-cent piece. This area was changed in appearance only in the greater prominence of the papillae and a slight glistening. There was an absence of fissuring and of the typical opalescence of syphilis. The only control of this condition I know is radiation with radium, and this agent does act successfully.

Chronic recurrent herpes of the tongue is so definitely intermittent it is hardly likely that it would be confused with chronic glossitis of syphilis.

#### DURATION

In nine cases here considered the duration was from one to nine years, an average of four. This is a surprising contrast to the average duration of the gummatous lesions which was barely two and one-half months. In almost every instance one or a number of incorrect diagnoses had been made or no conclusion reached. None of us can plead entire innocence from error in these cases. Fewer mistakes should be made now, than before the advent of arsphenamin (salvarsan), for other forms of antisiphilitic treatment are often ineffective, while arsphenamin (salvarsan) acts almost miraculously even in the most chronic types. This type of glossitis is peculiarly resistant to mercury and the iodids, and its characteristic long persistence with exacerbations and remissions tends to throw one off the track even though one has considered syphilis as a cause. In three of the nine examples the patients gave negative Wassermann reactions of the blood serum, four were positive, and in two the reaction was not determined. The percentage of  $33\frac{1}{3}$  of negatives is greater than the average, and in the three negative cases the test was extremely misleading, as there were no other signs of syphilis present.

As interesting as any feature of such a chronic condition is the fact that in nine instances of specific glossitis with an average duration of four years there was an absence of epitheliomatous degeneration, whereas in eight instances of gumma of the tongue with an average duration of two and one-half months there was an instance of complication with epithelioma.

One of the most important conclusions reached is that with a doubtful tongue lesion it is not only a justifiable procedure, but it is urgently advised to administer an infusion of arsenobenzol as a therapeutic test even though the Wassermann reaction prove negative.

# Society Transactions

## CHICAGO DERMATOLOGICAL SOCIETY

*Regular Meeting, March 20, 1918*

DAVID LIEBERTHAL, M.D., *President*

### SCHAMBERG'S DISEASE (PROGRESSIVE PIGMENTARY DERMATOSIS). Presented by DR. SHAFFNER.

The patient was a male medical student, aged 21, who had had the lesions for four years. They were first noticed following an attack of scarlet fever. Both feet and the lower legs presented patches of brownish pigmentation, symmetrically distributed. The malleoli as well as the skin over the large veins of the dorsum of the feet were entirely free from lesions. There was considerable atrophy of the skin on the lateral aspects of the feet. The patient claimed that the disease had regressed in certain areas of the feet and progressed upward on the legs. On the left arm there was a large pigmented verrucous nevus, which had been present since birth.

#### DISCUSSION

DR. QUINN thought it was a case of symmetrical progressive pigmentation.

DR. McEWEN believed it was a nevus and that it had probably been present throughout the patient's life. The fact that he had an unquestioned nevus on his left arm should be considered as indicating a tendency to tissue defects in the direction of nevi formation.

DR. ZEISLER said it reminded him of the pictures of Schamberg's disease.

DR. STILLIANS believed it was an instance of Schamberg's disease, a symmetrical pigmented dermatitis of the legs, slowly spreading. He was impressed by the exquisite symmetry of the lesions.

DR. HARRIS thought the color was darker than the cases of Schamberg's disease he had seen. The skin over the lesion was atrophic, as if he might have had a lichen planus there.

DR. PUSEY thought that Dr. McEwen's suggestion was probably the best.

### CARCINOMA. Presented by DR. WAUGH.

The patient was the man shown at the February meeting as cheilitis. Since that time the induration had markedly increased. A biopsy had confirmed the diagnosis of carcinoma.

#### DISCUSSION

DR. McEWEN stated that the infiltration in the case began almost immediately following the biopsy. Before that was made the infiltration was so slight as to make the diagnosis of epithelioma uncertain; within ten days afterward it was distinctly indurated and the question of diagnosis was settled clinically. He thought the rapidity with which it had grown and become indurated was significant of the need of prompt and radical treatment.

### TUBERCULID. Presented by DR. FISCHKIN.

The patient was a man, aged 27, who had lesions on the forehead and side of the face and some on the right leg. The lesions were nodular and had

been present for a year. There was no history of constitutional disease in any member of the family. The lesions had appeared a year previously, first on the forehead in the form of small pea-sized nodules. The skin was freely movable over the lesions and somewhat cyanotic. Some of the nodules had broken down, leaving superficial scars about the ears; and on the left leg lesions of similar character consisting of numerous small superficial ulcers covered with a crust, leaving pigmented scars, were present.

## DISCUSSION

DR. QUINN thought the lesions on the leg looked like syphilis.

DR. McEWEN believed the lesion on the leg was syphilis, but was not so sure about the one on the forehead.

DR. STILLIANS agreed with Dr. McEwen regarding the leg lesion, but had never seen a nodular syphilid so pale as the one on the forehead. He thought that the case looked much more like a syphilid than a tuberculid.

DR. HARRIS thought it was the sort of tuberculous ulcer which spreads very slowly.

POROKERATOSIS. Presented by DR. HARRIS.

The patient was a man aged 65, who for six years had had an irregularly circinate growth on the knuckle of the little finger of the right hand. It was of a pinkish color, elevated about a quarter inch, the center being covered by a blackish, dirty, hyperkeratotic scale.

## DISCUSSION

DR. QUINN thought the man had an epitheliomatous lesion.

DR. FISCHKIN's impression was that it was on an inflammatory base. The lesion itself had a hard, dark pigmented edge and the man said that the erythema appeared only when he injured it. As a rule the skin was normal, but had the pigmented hard edge. If it had existed for six years without any change there should be a section.

DR. FOERSTER believed it to be a case of porokeratosis, the walllike margin, with the central depression, speaking for this diagnosis. It was the first example of the disorder shown before the Society.

DR. PUSEY agreed with Dr. Foerster.

ONYCHOGRYPHOSIS. Presented by DR. QUINN.

The patient was a woman, aged 38, who first noticed her trouble when she was about 12 years of age. It had never bothered her much but the growths were increasing in size. The lesions involved the nails of all the fingers and four of the toes. A section showed hypertrophy of the fibrous tissue and edema.

## DISCUSSION

DR. PUSEY thought it was a most striking case and believed the tumors around the nails were keloids. The woman had a tendency to keloid and whenever she suffered an abrasion about the foot proliferation of the tissue occurred. The section which was exhibited showed scar tissue.

DR. ZEISLER had thought of the possibility of multiple enchondromas, but as there was no cartilage microscopically this diagnosis could be ruled out.

DR. HARRIS thought it was a keloid.

DR. QUINN did not think it was a keloid. One growth that had been removed was as large as the great toe and on it the skin was just as soft as the natural skin. There was still one on the other foot in this condition. The little ones on the fingers felt like keloids.



## CASE FOR DIAGNOSIS. Presented by DR. WAUGH for DR. MACKEY.

The patient was a woman, aged 40, who had lesions on the legs which consisted of a number of split-pea to coin-sized, reddened, scaling areas, which on disappearance left brownish pigment; from four to six weeks elapsed from onset until disappearance of the lesions. The lesions were never moist, the margins were sharply defined and at times moderate itching was present. The disorder had been present for over two years and the patient usually presented a few active lesions, which were always limited to the lower extremities.

## DISCUSSION

DR. ZEISLER thought it was a varicose eczema.

DR. McEWEN stated that the patient had been seen at the Rush Clinic a number of times. At first the lesions were very bright pink, but the one on the shin had become darker in the last week. The tentative diagnosis was *erythema multiforme*.

DR. FISCHKIN said that the woman complained of itching and the lesion was simply papular. The one on the left leg had left a little pigmentation and he believed it was an *urticaria*.

DR. HARRIS thought it was a case of *psoriasis*. He had seen a similar instance which had been present for a number of years.

DR. PUSEY thought the patient might have had just a little traumatism—perhaps an injury half as large as a grain of wheat, and on account of the hypostatic congestion a dermatitis resulted, because of the bad circulation and bad veins. The pigmentation was the kind that came from varicose veins.

## CASE FOR DIAGNOSIS. Presented by DR. HARRIS.

The patient was a woman, aged 23, with a lesion on the forehead which had been present for six years. The lesion was ring-shaped, about 1 cm. in diameter with a depressed center, the border being the thickness of a thread. It produced no subjective sensation. There was a slight tendency to scaling but no ulceration.

## DISCUSSION

DR. PUSEY stated that he had seen other cases even more striking in the same location, a little ring with a depressed area, but he did not know what it was. He did not think it was an *epithelioma*.

DR. McEWEN believed it was a multiple benign cystic *epithelioma*.

DR. STILLIANS had thought of an *epithelioma* and also of a *granuloma annulare*.

DR. HARRIS stated that when he first saw the patient a month previously the lesion was much more evident than it was at present. He had thought of a circinate *lichen planus* and also of an *epithelioma*.

## EPITHELIOMA OF CHEEK. Presented by DR. HARRIS.

The patient was a man, aged 41. Nine months previously he noticed a small scale formed in a dimple on the left side of the face. The dimple had been getting larger. A few months later he noticed an induration under and around the dimple, which at the time of presentation measured  $1\frac{1}{2}$  cm. in diameter. There had been no bleeding or discharge of any sort and no pain. The indurated lesion of a yellowish color seemed rather deep in the cheek.

## DISCUSSION

DR. QUINN believed it was a sinus which had healed.

DR. McEWEN thought it was due to the contraction of scar tissue formed by the healing of an old sinus connected with an ulcerated tooth.

DR. HARRIS could not see how a man of that age could have a sinus and an ulcerated tooth without knowing it. He had thought of the possibility of a scleroderma but now believed it was an epithelioma. He had found a buttonlike mass under the skin and believed it belonged in the atrophic epithelioma group—the morphealike epithelioma. The lesion had spread under the surface.

#### TOXIC DERMATITIS. Presented by DR. STILLIANS.

The patients were brother and sister, the girl aged 5 and the boy aged 6 years, who were kindly referred by Dr. Keeton of the resident staff. They had entered the hospital five days previously with a generalized eruption consisting of dark red lines about 2 mm. in width, forming a reticulum whose meshes were about 1 by 2 cm. over the trunk and limbs. The skin between was normal in color. The eruption had rapidly faded so at the time of presentation the boy had only a few lines on his arms and the girl a fading eruption on the abdomen and arms.

#### DISCUSSION

DR. PUSEY believed it was probably a toxic erythema. The history was perfectly good for that, as it had been taken for measles or some other exanthem.

DR. STILLIANS thought that these two cases were interesting evidence that the character of the toxin determines the character of the toxic eruption, rather than the peculiarity of the patient.

#### CASE FOR DIAGNOSIS. Presented by DR. McEWEN.

The patient was a colored girl, aged 14, who had been sent to the throat department of the hospital and subsequently was transferred to the skin and venereal department. She was sent in as a case of specific tonsillitis, the lesion being on the soft palate, projecting forward on to the hard palate and over the walls of the anterior pillars and uvula. It was a gyrate, linear lesion, bright red in color, slightly elevated, showing no signs of ulceration. Two Wassermann tests had been negative. There was no pain. The case was shown as one in which, because of the character of the clinical picture, reliance could not be placed on the Wassermann findings. (Later the Wassermann test was found to be positive.)

#### DISCUSSION

DR. PUSEY thought it was a healing syphilid. It looked like a subsiding lesion of some sort. She had had treatment consisting of potassium iodid, which might account for the present condition.

DR. QUINN considered it somewhat suggestive of syphilis, yet it was rather acutely inflamed.

DRS. McEWEN, ZEISLER and STILLIANS believed it was a syphilid.

DR. HARRIS had seen the woman when she first came into the hospital and it did not look like a mucous patch. She gave a history of its having been present for two years. He had never seen a similar lesion.

#### CASE FOR DIAGNOSIS. Presented by DR. McEWEN.

The patient was a man, aged 24, who had been sent to the hospital on account of a recent syphilis, but who was presented because of certain lesions on the left cheek and ear, which had been present for five years. The cheek lesion was the size of a quarter, reddened, slightly infiltrated, showing a scanty adherent scale and some tendency to central scarring. This lesion was said to have been cauterized. The ear lesion consisted of a whitish atrophic area within the concha about the meatus, abundantly set with small

dark points marking the openings of the sebaceous glands; some of these were distinctly large comedones. The diagnostic question was: Was the ear lesion a healed lupus erythematosus or the relic of a severe acne of the part?

## DISCUSSION

DR. ZEISLER considered it a case of lupus erythematosus.

DR. PUSEY did not know what the scars could be if they were not lupus erythematosus. He thought the appearance of the scars might have been produced by a number of the little lesions coalescing and leaving ridges between.

DR. HARRIS thought the lesions on the cheek and ear were lupus erythematosus.

DR. McEWEN said the question whether the scars in the ear could not have been produced by extensive acneiform lesions in early years, was difficult to rule out, but he favored the diagnosis of lupus erythematosus.

DR. STILLIANS said the man gave a history of working where oil splashed on his left side all the time and that the ear was burned with oil. He had never seen lupus erythematosus confined to one side; he had thought of acne but had never seen acne produce such large, flat lesions. The scars certainly resembled those of lupus erythematosus, but he had never seen an old lupus erythematosus with several lesions on one side only.

SYPHILIS. Presented by DR. HARRIS.

The patient was a colored man, aged 34, who had verrucous lesions on his nose and scalp. He was born in Georgia, lived in Kansas City and came to Chicago two years ago. He had a chancre fourteen years ago. The lesions simulated blastomycosis rather closely.

## DISCUSSION

DR. QUINN thought most of the lesions were gummas, although some of them looked like condylomas.

DR. HARRIS agreed that the lesions on the lip and nose looked like syphilis, but those on the scalp looked like blastomycosis.

## CHICAGO DERMATOLOGICAL SOCIETY

*Regular Meeting, April 17, 1918*

DAVID LIEBERTHAL, M.D., *President*

CASE FOR DIAGNOSIS. Presented by DR. E. P. ZEISLER for DR. J. ZEISLER.

The patient, aged 29, was a farmer, living in Nebraska. His cutaneous disorder began at the age of 3 and it had not changed as long as he could remember. There was no discomfort except in hot weather, when he perspired. He had five brothers and one sister, none of whom had similar trouble. His father and mother were living and well. His past history was practically negative except for measles four years ago. On physical examination, aside from his skin disease, he seemed to be in a perfect condition. The blood showed an eosinophilia of 14 per cent. The urine was negative. A Wassermann test, made some time before presentation, was negative. A piece of tissue was removed, but the report of the microscopic findings had not been received.

The lesions consisted of superficial purplish plaques, with a handlike, annular and variegated appearance, interspersed with small violaceous papules and telangiectases. There was a considerable amount of fine scaling. The eruption was most marked on the flexor aspects of the wrists, the bends of the



elbow, axillae, neck and sides of the chest. The penis and scrotum were studded with pea-sized purplish papules which resembled those of lichen planus. The lower extremities were almost completely covered by the eruption, which had a more distinctly purpuric color. On pressure the purple color became brown.

The patient had been seen by various dermatologists and all had agreed that it was a most extraordinary case. He had had one short course of treatment with roentgen rays and arsenic, which according to the patient, aggravated the condition. One observer had made a diagnosis of lichen planus.

#### DISCUSSION

DR. HARRIS thought the case was one of purpura annularis telangiectodes (Majocchi). There were a few annular lesions. The outlying lesions showed the telangiectases very prominently. After pressing the blood out a pigmentation was left, then there was a certain amount of atrophy present and the affection began in early life, which would eliminate everything else that the speaker could think of. On the lower extremity the lesions were somewhat bluish as in lichen planus, but that was to be expected. In lichen planus the lesions would be distinctly elevated.

DR. FOERSTER said that the case was such an unusually extensive one that he hesitated very much to regard it as an instance of purpura annularis telangiectodes. He thought, however, that Dr. Harris' diagnosis was the right one. The skin of the thighs showed very distinct atrophy.

DR. SHAFFNER thought it was an instance of Majocchi's disease from all the descriptions he had read about it and from what he had seen. But he had never seen anything as extensive as the case presented.

DR. LIEBERTHAL said that in Majocchi's purpura the symptoms were not permanent as they were in this case. There was, further, no development of papules. It might be either a "Majocchi" or a lichen planus or both combined. He believed it would be well to excise a lesion on the penis for bioscopic examination.

DR. ZEISLER had not seen any case of Majocchi's disease, but as he recalled it, it was never as extensive as the case shown and was mostly on the lower extremities. The lesions seemed to have the color, consistency and conformation of lichen planus, especially those on the penis. There were, however, large plaques that did not look like lichen planus. Dr. Schalek of Omaha, made a diagnosis of lichen planus. It also had the variegated appearance that one observes in certain forms of parakeratosis. Personally, the speaker was not familiar with a lichen planus that began at 3 years of age and lasted twenty-six years without change.

DR. HARRIS said that hypertrophic lichen planus might last that long. The only place that showed suggestions of lichen planus was on the hand.

LEPROSY. Presented by DR. BEESON.

The patient was a man, aged 36, a native of Finland. He had been in this country about four years. His past history was negative as far as the speaker could learn. The trouble first appeared on the left side of his face about five months before presentation—about in December. The patient said he took a hot bath one night and the next day noticed this eruption. The areas were anesthetic and there was some enlargement of the ulnar nerves. There was also involvement of the nose. The lesions were large, smooth, flat plaques, dirty brown in color. No lesions had appeared on the trunk or limbs.

CASE FOR DIAGNOSIS. Presented by DR. HARRIS.

The patient was a lady, aged 32, and had had the lesion for about a week. The whole lower right eyelid was markedly swollen and at about the middle

there was a somewhat firm, elevated lesion, the surface of which was a black gangrenous mass just beginning to separate around the edge. It was not painful; there was no regional adenopathy. Repeated examinations failed to show any spirochetes.

## DISCUSSION

DR. HARRIS saw the case a day before presentation and thought it was a chancre. There was no history of syphilis. There were no lesions in the mouth. She had a child 7 months old who was apparently well. The speaker removed some of the serum, which was difficult to obtain, to examine for spirochetes—there was none present. Another examination the day she was presented also showed the absence of spirochetes. He presented the patient on account of the absence of spirochetes and especially in view of the fact that he had seen two other similar cases, one examined through the courtesy of Dr. Shaffner which was on the lip and the other in his own practice which also was on the lip. The central necrotic area seemed to go down just like an infarct and sloughed out just as in the case presented, leaving an ulcer. A Wassermann test, made eight weeks previously, was negative. He thought these three cases were parallel. The lesions were circumscribed areas of gangrene of the skin simulating chancre, but they were not syphilitic. What they were, he did not know. They were persistently spirochete-free and the Wassermann reaction was negative.

DR. LIEBERTHAL asked if she had had any systemic symptoms.

DR. HARRIS said there were no systemic symptoms. The swelling was less the day of presentation than the day before, due to the application of hot boric acid dressings.

DR. SHAFFNER thought the glands were gradually diminishing. He saw a woman just a little less than two weeks before with a lesion that looked to be a typical chancre on the upper lip. It was indurated. She had had it for three weeks. There was a slough in the center of the lesion. On separating, the tissue underneath presented a very adherent grayish membrane. The serum was expressed with no difficulty. She had been treated with a 10 per cent. white precipitate ointment. He also prescribed for her some normal saline solution locally. He was unable to find any spirochetes in the serum. There were no glands palpable at that time. She had had a Wassermann test made before she came to the speaker. He saw her again on the day of presentation and the lesion was entirely healed. She had had no evidence of syphilis. It was clinically a typical chancre with the exception of the slough and the absence of enlarged glands.

DR. HARRIS said that in a chancre five days old one should find spirochetes. The serum did not come out as it did in a chancre. He rubbed the lesion very vigorously and could not get any serum. Then he had to squeeze it very hard and succeeded in getting only a small amount.

DR. STILLIANS asked if Dr. Harris had found any bacteria.

DR. HARRIS said he had found a few, but none that he could identify. He found an organism in the dark field, but could not stain it. There were a number of coccidia-like bodies. They were larger than a leukocyte and very thin and hardly noticeable. He would have thought they were artefacts of some sort, were there not so many of them.

In the other case he had observed, the lesion was on the upper lip. It stood way out and looked like a primary lesion, except that it had a necrotic slough. This case was going to be followed up and a Wassermann test made.

*Note.*—Six weeks later the Wassermann test was made, which was negative. The lesion healed under hot boric acid dressings.

## LUPUS CARCINOMA OF FACE. Presented by DR. E. P. ZEISLER.

The patient was a young lady, aged 21, who had been perfectly well until six years previously when a brown patch appeared on one nostril. At that time it was diagnosed as lupus. The disease gradually spread over the nose, cheek and upper lip. She had been treated with roentgen rays for four years, on an average of two to three times a week. Four months ago a hard nodule developed below the left nostril in the lupus scar tissue, which had been treated with radium for sixteen hours (in Canada). This had grown rapidly and until the time of presentation there was a hard fungating tumor of the upper lip extending into the nostril. The nose and cheeks showed scarring, atrophy and roentgen-ray telangiectasia with a few active lupus nodules at the periphery. She also had a patch of lupus on the right hand which had been treated with roentgen rays and another patch on the neck. The diagnosis of lupus carcinoma had been made by two competent observers of Chicago and she was presented for the purpose of getting suggestions as to treatment. It seemed to be a most desperate case. The microscope revealed a squamous-cell carcinoma.

## DISCUSSION

DR. STILLIANS believed radium could be used in this case with benefit and without harm.

DR. LIEBERTHAL asked how much radium had been used.

DR. ZEISLER said it was used for sixteen hours. He did not know in what dosage. Dr. Pusey had seen the case and advised against roentgen ray or radium. He said that it was a case for surgery. The speaker asked Dr. Lieberthal what experience he had had with diathermy and whether he saw any contraindications to its use in the case presented. He also asked whether it would be worth while to try a heavy dose of radium.

DR. LIEBERTHAL said he had had no experience with diathermy, but he had seen some wonderful results. He saw no contraindications for its use in this case. Even small amounts of radium may produce good results when left on long enough.

## PAPULONECROTIC TUBERCULID. Presented by DR. HARRIS.

The patient was a woman who had had the lesions for three months. They started on the forearm and spread over the rest of the body; practically the entire body was covered with them. None had cleared up. They started as small papules which became pustular, but had not crusted. There had been no healing. She had a ++++ Wassermann reaction, made about three or four weeks before presentation. She had lost some weight in the last three months. Examination of the lungs proved negative. The lesions on the arms were the first to appear. They had remained the same all the time. She had had no medication at all until two days before being shown, since when she had been on an antisyphilitic treatment, but it had had no effect so far on the disease. There were no lesions in the scalp. She had no adenopathy. There was no history of a primary lesion, though there had been exposure. There were no lesions in the mouth and never had been. None of the spots had disappeared since their appearance. When she first came into the hospital, three or four days previously, she had complained of pain in the side and a friction rub was found and a few crepitant râles, but they had cleared up.

## DISCUSSION

DR. SHAFFNER believed it was not syphilis.

DR. QUINN said it looked very much like a case of acnitis he had under observation. The color was practically the same and the lesions were about the same size. Most cases of acnitis that had been described were confined



to the face. His case was also on the face. Unless it proved to be a syphilitic trouble, he favored the diagnosis of acnitis.

DR. STILLIANS maintained that it was a grouped, late papular, secondary syphilis. He had never seen an acnitis or folliclis that was grouped and confluent and so plentiful as the one under discussion. Papulo-necrotic tuberculids were discrete, occurring in crops, with pitted scars of former lesions usually surrounded by a zone of deep pigmentation. The case shown had a small flat papular eruption with some pustulation but no deep central necroses and no scars of previous lesions. The fact that the patient gave a history of having had the eruption for three months without improvement would not, in his opinion, have any weight against the diagnosis of syphilis.

DR. HARRIS thought it was a tuberculid. He took a section from a case of acnitis shown at a previous meeting by Dr. Quinn and it had shown distinct tubercles. He intended to take a section from the case presented. The lesions looked exactly like that of Dr. Quinn's case. The disease began three months previously and yellow masses of necrosis could be seen in each lesion. One could expect syphilis to ulcerate in that time. In syphilis some of the lesions would have disappeared by this time even without any treatment. It looked to be too inflammatory for syphilis.

DR. LIEBERTHAL thought everyone had seen cases of roseola where the lesions had remained for months and months.

*Note.*—The eruption subsequently disappeared very rapidly under arsphenamin (salvarsan). A biopsy showed no evidence of tuberculosis.

#### CASE FOR DIAGNOSIS. Presented by DR. HARRIS.

The patient was a colored woman, aged 24. She was married and had one child. The child was in the hospital with rickets. The patient's trouble began last September. The first thing she had had was what was called rheumatism in the left knee. Very shortly after this the skin eruption appeared and it had not changed since the onset. She had had no medication, except in the month previous she had had some kind of wafers for the rheumatism, but she did not know what they were. She said that the lesions came on as blisters, but no blisters were present when the case was shown. She had a sore throat and a little headache. In the last week she had developed a lesion in the eye, a severe phlyctenular keratitis. She had a small scar on the cornea. The skin lesions were the size of wheat or a small pea, erythematous spots somewhat irregular in shape, showing distinct atrophy and more or less special predilection for the extremities.

#### DISCUSSION

DR. STILLIANS was very much interested in the case. He thought it was a follicular papular syphilis in a patient with acanthosis nigricans.

DR. SHAFFNER said it resembled slightly a pemphigus foliaceus from the history of vesicles. He would not tender that as a diagnosis—it was only a hazard.

DR. HARRIS remarked that when he first saw the patient he had thought of an acanthosis nigricans. She had a scar on the cornea, which showed she had had some inflammatory lesion in one of her eyes. He thought the present trouble was a phlyctenular keratitis. It was possibly a tuberculid. She showed the same lesions on the lip and on the face. They looked like a papulonecrotic tuberculid. Arsenic had an effect on some forms of tuberculids.

DR. LIEBERTHAL said that the papillary excrescences on the fingers, foot and axilla strongly suggested the diagnosis of acanthosis nigricans.

#### TUBERCULOSIS VERRUCOSA CUTIS. Presented by DR. HARRIS.

The patient was a colored man who developed a fistula in ano four years previously which had been operated on one year after its appearance. The skin

trouble began shortly after the operation. It began as a "pimplelike" lesion which gradually developed into a large wartlike mass. It was located at the right of the anus and was a mass about 4 inches long and  $2\frac{1}{2}$  inches wide, elevated about  $1\frac{1}{2}$  inches; soft but not tender.

## DISCUSSION

DR. ZEISLER thought of the possibility of a dermatitis vegetans.

DR. SHAFFNER thought it was a tuberculosis verrucosa cutis. He remembered a man who had one on the lip and a tuberculous infection in the nose.

DR. STILLIANS favored the diagnosis that Dr. Zeisler gave.

DR. HARRIS saw the case first the day before presentation and his diagnosis was tuberculosis verrucosa cutis. The lesion surrounded the fistula in ano. He had seen similar cases in this location and they recovered rapidly under roentgen ray.

*Note.*—Later, a biopsy showed tuberculosis.

## CHRONIC PHAGEDENIC CHANCROID. Presented by DR. HARRIS.

The patient was a man who had had the inguinal glands on both sides dissected out four years previously. In 1914 this condition started and had been continuous ever since, healing up and breaking down. The lesion was painful, especially at night; so much so that the patient was unable to sleep. He was colored, had always lived in the United States, coming originally from Texas. The lesion was an irregular ulcer involving the area along Poupart's ligament on both sides and extending on either side of the scrotum, along the perineum and around the rectum. The edges were undermined and tender; there was a profuse offensive purulent discharge.

## DISCUSSION

DR. HARRIS thought it was a chancroid on account of its border. So many organisms were usually obtained from chancroid that he had not been able to demonstrate the Unna-Ducrey bacillus to his satisfaction.

DR. LIEBERTHAL had seen very extensive chancroids. Some cases were so extensive that they involved the whole abdomen. The only method which had given him results in those cases was keeping them in the continuous bath.

DR. HARRIS said there was a case in the hospital of five or six years' standing that spread from the umbilicus almost to the knees, and the only thing that helped it was cauterizing with carbolic acid.

## CHICAGO DERMATOLOGICAL SOCIETY

*Regular Meeting, May 15, 1918*

DAVID LIEBERTHAL, M.D., *President*

## EDEMA OF THE LIP. Presented by DR. ORMSBY.

The patient was a man, aged 44, who had had the disorder for nine months. The involved area was limited to the upper lip and consisted of a rather tense swelling without discoloration. The enlargement had occurred gradually. The patient stated that the swelling was more marked in the morning. There were no subjective symptoms. Roentgenotherapy and internal treatment were employed for several months without much improvement. Exacerbations and partial remissions had constantly recurred.

## DISCUSSION

DR. FOERSTER was of the opinion that in dealing with a rapidly developing, rather soft lesion of this kind in the lip, a lymphatic origin would have to be considered. The patient's nose showed a number of small fissures and crusts, and he believed that under such conditions a recurring lymphangitis with eventual thickening is aroused by slight trauma or disorder of the mucous membrane. He called attention to two types of enlargement of the lip seen in late syphilis; in one the enlargement was diffuse, uniform and permanent, without tendency to destruction, and in the other the process was essentially gummatous and responded readily to treatment.

DR. QUINN thought it was an angioneurotic edema. It had been present for a long time, was unilateral, and partially disappeared at times.

DR. LIEBERTHAL said that such cases were not so rare and in some the swelling of the lip was accompanied by blepharitis and rhinitis with fissures and crusting. In former years these symptoms were ascribed to so-called scrofulosis. It was not impossible that a tuberculous item might be found in their causation.

DR. ORMSBY believed that in some of the cases with recurring swelling of the upper lip the involved area was soft first, but gradually became harder and developed into a solid edema of the face which involved not only the lip but the sides of the face as well. It seemed to him that the etiologic factor must be an infection, and these cases were extremely hard to clear up. He had never seen one clear up entirely. Some of the cases were due to syphilis, but many were not.

**LYMPHANGIOMA.** Presented by DR. STILLIANS.

The patient was a woman, aged 41, who had had a tumor on the neck since childhood. She presented herself for treatment because of the deformity and the fact that the growth had apparently increased in size recently and gave some pain which was relieved by bursting of the cysts. On the right side of the neck just above the shoulder, running upward toward the ear, was a linear group of dull red papules from 2 to 5 mm. in diameter, flatly convex. Some of them were translucent, most of them were not, and all were fairly firm. In the center of the group was a thick coated cyst, 1.5 cm. in diameter, with dilated blood vessels in the skin covering it. The largest lesions were in the center, decreasing in size toward the ends of the group. Histologically, one of the small papules near the lower end of the group showed cysts, apparently due to dilatation of coil ducts. In some places the lining epithelium had proliferated.

## DISCUSSION

DR. ORMSBY stated that they had two cases of lymphangioma in the axillary space which had cleared up under roentgen-ray treatment, using the technic employed in epithelioma.

**CASE FOR DIAGNOSIS.** Presented by DR. STILLIANS.

The patient was a girl aged 14, of normal size and weight, who had had the trouble since the age of 2, when she was brought to this country from Germany. There was very little of the disorder on the legs or body, it being almost entirely confined to the arms and face. It never cleared up entirely. The teeth were very imperfect, showing a transverse groove near the cutting end of the incisors beyond which the tooth was very thin, and also three of the first molars were missing. The one remaining was badly decayed. The prevailing lesions were small papules, capped by blood crusts, situated on the arms, neck and lower part of the cheeks, most abundant on the extensor surface of the forearms and on the neck. In places, very slightly elevated papules



could be found of normal skin color, better felt than seen. On the backs of the hands and in the bends of the elbows were patches of chronic eczema. The Wassermann reaction was negative.

#### DISCUSSION

DR. HARRIS considered it a case of chronic dermatitis in the nature of an eczema, possibly due to autointoxication or some thyroid disturbance. He believed it would clear up under thyroid therapy.

DR. McEWEN thought it was an extremely interesting case and they had had a number of similar ones at the Rush Dispensary. They did not clear up readily. He had observed that the lesions seemed to be in the parts that were more apt to be exposed to light, the upper surface of the arm, the face, the neck, and the front and back of the upper trunk being principally involved. He thought Dr. Harris was right in the matter of a thyroid element in the etiology, but he had not been able to secure very striking results with thyroid therapy. He believed the cases belonged to the group discussed at New York two years ago by Engman and that the work done by Kendall might throw light on the etiology of the condition.

DR. FOERSTER had observed a number of children with this peculiar dermatitis, associated with a history of asthma. Usually the dermatitis and the asthma were present alternately. There was a dermatitis, recurrent and chronic, observed in children who have thyroid deficiency, with a more or less xerodermatic or ichthyotic character of skin, which he did not think was the same type as Dr. Stillians' case. He believed it was simply a dermatitis modified by the type of skin. He thought these cases improved under thyroid therapy rather quickly, but it required prolonged treatment until they were well. In a number of instances there appeared to be a very direct relation to the ingestion of egg and the removal of egg from the diet seemed to have an influence on both the eruption and asthmatic seizures. It was evident that the patients were highly sensitized and it was only by desensitization that therapeutic results could be expected.

DR. QUINN called attention to an article published recently in *The Journal of the American Medical Association*, which spoke of the combination of asthma and eczema and stated that many years ago he had heard Dr. Hyde speak on this subject many times.

DR. ORMSBY said his experience had been much the same and two or three examples were worth mentioning. In one case the patient had been under the care of a specialist who gave her vaccine, which was of little value. He watched the case for two or three years and was able to clear up the disorder in spots; the disorder was generalized. He administered arsenic and the condition cleared up and remained so for two years. He had cured similar cases in this way, although he knew of no reason for giving arsenic in eczematoid cases. He had tried thyroid extract in many of the cases, but it was only exceptionally of value. He had never seen the untoward results in this condition produced by arsenic that frequently occurred when given in cases of dermatitis herpetiformis.

DR. STILLIANS was particularly impressed when he first saw the girl by the large number of punctate blood crusts. To make that kind of a mark it was necessary to have papules and he thought it might be an atypical prurigo. There was no history of asthma and no susceptibility that he could find. She had been receiving thyroid extract for a couple of weeks without any change. The only thing that had benefited her was sulphur in the bath and a mild oil of cade ointment. He was interested in the condition of the teeth as an instance of prenatal malnutrition.

CASE FOR DIAGNOSIS. Presented by DR. McEWEN.

The patient was a woman, aged 48, an American, a scrub woman by occupation, who had been sent to the surgical service of Cook County Hospital

where he had seen the patient with Dr. Martin of that service. Two weeks before entering the hospital she had gone home from her work with a sensation of coldness and great pain in the legs, especially in the calf of the right leg. Her husband applied a patent liniment and hot water dressings for about four hours, when this treatment became so painful that it was discontinued. No applications were made to the leg after that. The pain was more or less constant. Discoloration was first noticed two days before she entered the hospital. Coldness of the leg and foot was the most prominent symptom and this coldness extended to a point 2 inches above the knee, with a slight change of color in this area and a number of hemorrhagic and necrotic areas about the foot and lower leg. She had had rheumatism two years previously. The patellar reflex was present on the left and the plantar on the right. There was tenderness and swelling about the knee joint. The skin was dry, loose and rather wrinkled; over the legs there had been a few blebs which had broken and left the skin wrinkled. The tenderness extended 10 cm. above the knee; there was no femoral pulsation. When first admitted to the hospital she had sterile petrolatum dressings, but later had dry dressings and complained less of pain. Sensation to touch and pain was acute about the right knee, where it was cold but not darkened. No pulsation could be felt in the leg. There was a foul odor. The left leg was cold below the knee; no loss of sensation to touch and pain was present. The tips of all the fingers were slightly whitened. The urine was negative for albumin and sugar.

#### DISCUSSION

DR. ORMSBY said that three months previously he had been called to see a woman who was suffering intense pain in the leg. At first the skin was white, then became pink, then a decided red and later mottled and finally gangrenous. The patient was attacked on Monday night and died on Friday, becoming unconscious in three days. She had had rheumatism before and a heart lesion at that time. The extreme pain in this case made it very like the other case, except that the one seen three months before was more severe.

DR. MCEWEN considered the case very interesting, especially because of the application of hot Sloan's liniment, which might have produced a dermatitis; however, gangrene did not set in for two weeks after the applications, hence the latter could scarcely be the cause of the present serious condition. He would like to ask the members how long they would consider it advisable to leave the leg without amputation. When the patient entered the hospital the tips of her fingers on both hands were white and cold, but the left foot was warm and of good color.

DR. HARRIS said he had seen a case of gangrene of the arm due to embolism in which the arm became mummified. He had advised dry powder as a dressing in the present case, for if kept dry there would be less chance of infection. It was much drier now than when he saw it last.

DR. QUINN had seen a case of gangrene in the legs several months previously, in which amputation was thought advisable, but the patient would not consent to this and was still living.

DR. EISENSTAEDT stated that at Michael Reese Hospital there were nearly always, on the surgical service, several similar cases. A few weeks previously Dr. McArthur had shown a case which was due to endarteritis obliterans. The condition seemed to be much more prevalent among the Russian Jews. They had been temporizing in various cases with injections of Ringer's solution, with some temporary result, but most of them came to amputation.

DR. LIEBERTHAL thought the lesion was a result of obstruction and did not see what could be expected from any treatment except amputation.

CASE FOR DIAGNOSIS. Presented by DR. HARRIS.

The patient was a woman, aged 42, who had been presented about three years previously when she was pregnant and had a bullous eruption begin-

ning around the pubes. The diagnosis at that time was dermatitis herpetiformis, although some of the members thought it was a case of impetigo herpetiformis. She had entered Michael Reese Hospital where she had improved greatly, but had had several recurrences since that time not associated with pregnancy and had been in the hospital on several occasions. The lesions were present on the abdomen and legs and in some areas on the arms. In all of the areas there was a marked tendency to a vegetative condition.

#### DISCUSSION

DR. EISENSTAEDT was inclined to believe that in view of the fact that the patient had had three intervals of freedom from the disorder it should be considered a dermatitis herpetiformis, but it verged very closely on a true pemphigus.

DR. SHAFFNER thought it was dermatitis herpetiformis.

DR. HARRIS agreed with Dr. Shaffner.

DR. MCEWEN was interested in the case because it seemed to establish the fact that it was not impetigo herpetiformis.

DR. FOERSTER had seen two cases of impetigo herpetiformis, one which had been diagnosed by Kaposi and the other he had observed in his own practice. The lesions were largely concentric and there was an acute onset with high temperature, occurring during pregnancy, and the lesions were largely pustular.

DR. ORMSBY stated that the patient originally had vegetations which complicated the diagnosis, but he believed it was dermatitis herpetiformis.

DR. STILLIANS said he saw the patient when she first came to the hospital five years previously, at which time he made a diagnosis of pemphigus vegetans. The primary lesions were then very small pustules and there were some of the same kind seen on presentation.

DR. HARRIS considered the case interesting in connection with that of a colored man who left the hospital after being in the ward for five or six months. He went south and was given cacodylate of soda and was entirely relieved. The vegetations all disappeared, he gained in weight and felt well.

DR. LIEBERTHAL was much interested in the case, as he had seen it at the Michael Reese Hospital five years previously. She was then pregnant and presented lesions over the lower part of the abdomen and in the inguinal regions, which consisted of bullae and vegetations as were seen in pemphigus vegetans. There were also bullous lesions in the axillae and on the legs. She had never had this affection before. He made a diagnosis of herpes gestationis. Other dermatologists had offered diagnoses of pemphigus vegetans and impetigo herpetiformis in this case, but these could be ruled out. The first was accompanied by prostration and terminated fatally, while in the latter great prostration, high temperature and eruptions of minute pustules were observed, and it also terminated, as a rule, fatally.

#### EXTRAGENITAL CHANCER. Presented by DR. STILLIANS.

The patient was a woman, aged 22, who entered the hospital on May 7, with a history of having been bitten on the top of the left breast. Following this trauma an indurated lesion appeared, followed after five weeks by a macular eruption. She was three months pregnant. The ulcer was crescent-shaped, with the nipple in the concavity of the crescent.

#### PELLAGRA. Presented by DR. HARRIS.

The patient was a man, aged 66, who had been living on toast and tea for several months. He had been out of work and had practically nothing else to eat. He had entered the hospital complaining of cough and a bronchitis. The slight dermatitis of the backs of the hands which was present when he entered the hospital had become worse. There was no diarrhea, but a marked mental deterioration was observed.



## DERMATITIS HERPETIFORMIS. Presented by DR. McEWEN.

The patient was a man, aged 26, whose trouble began five years previously. The lesion began as vesicles containing clear fluid; these cleared up, leaving pigmentation. The lesions were grouped and there was much itching. The condition had been present more or less continuously with exacerbations which apparently came about once a month. Under the use of sulphur ointment and 9 minims of Fowler's solution, three times a day, the patient had improved rapidly but not permanently.

## DISCUSSION

DR. McEWEN said the man was terribly handicapped in obtaining a job and he was told that they rejected men at industrial plants who suffered as he did, because of the possible legal complications and claims in case of accident. Conditions had been particularly bad for men with chronic eruptions since the Employers' Liability Act had been in force.

## URTICARIA PIGMENTOSA. Presented by DR. E. P. ZEISLER.

The patient was a physician, aged 62, who had had the eruption for four years. The disorder came on gradually after an attack of typhoid fever in Mexico. He was at the present time in good health and suffered no itching or discomfort of any kind. The lesions consisted of firm, brownish-red nodules from an eighth to a quarter inch in diameter scattered irregularly over the trunk and extremities. On friction with a blunt instrument a dermatographic reaction was produced.

## DISCUSSION

DR. ORMSBY had seen the patient some time previously and considered it a case of urticaria pigmentosa of the adult type. The lesions were a little different and the absence of mast cells made it difficult to make a diagnosis, but it was not necessary to have mast cells. Enough cases had been seen to prove that there was an adult type of urticaria pigmentosa.

## CASE REPORTS. Presented by DR. EISENSTAEDT.

The first case was that of a young married man, aged 32, whose general health was excellent, but who gradually developed an erythema of the face, first under one eye and then under the other. It was rather characteristic of lupus erythematosus but gradually developed a macular character and he was endeavoring to determine the etiology. The patient responded slightly to treatment. The withdrawal of stimulants from the diet had no effect on the lesion. They had eliminated practically everything but tobacco, and when smoking was discontinued the face cleared completely within ten days and remained clear until he resumed smoking, after which he had a recurrence of the trouble. This had gone on for about three years and it was proved that the face cleared up spontaneously when he ceased smoking. He thought it was not the tobacco itself that produced the trouble, but combustion products thereof. In the *British Medical Journal* two such cases had been reported of individuals who had a tachycardia, slight tremor of the hands and a considerable degree of exophthalmos, but no palpable thyroid. These symptoms obtained in his case.

The second case was one seen by Drs. Lieberthal and Harris as well as himself. The patient was a man who was employed in the office of a large concern where at certain periods of the year raw furs came in. At this time intense eczema occurred with two identical lesions on the external surface of the thighs. Oozing was present in all lesions, particularly on the legs, where there was an exudate. No etiologic factor could be determined. The man was kept away from business for four days and the condition entirely disappeared, but when he returned to work he had a recurrence. This happened

on several occasions. There were no furs coming in to the concern at this time so absolute proof was lacking, unless they went into the anaphylactic tests. He expected to show the patient and report further at a later date. There were many cases of a similar nature in the literature due to dyed furs, but this was the first case with which he was acquainted in which the disorder was due to the fur grease.

VITILIGO AND SYPHILITIC LEUKODERMA. Presented by DR. HARRIS.

The patient was a woman, aged 31, who had syphilis of four years' standing and atrophic lesions of the left breast. She had a vitiligo which involved the site of the atrophy with destruction of the pigment of the areola.

#### DISCUSSION

DR. SENEAR thought the condition was a little unusual and while it was possible that the syphilis might be responsible for the vitiligo he did not believe that we could say that their occurrence together in this case was not merely a coincidence.

DR. STILLIANS was interested in the single spot of vitiligo and thought the other lesions did not look like vitiligo.

DR. LIEBERTHAL said that in syphilitic leukoderma the pigmentless spots were round, closely set and separated from each other by hyperpigmented skin.

DR. EISENSTAEDT thought the lesions shown as a typical leukoderma were not at all characterized by a regular boundary. He believed it was a leukoderma. The lesions on the breast he was not able to diagnose, although they suggested to him a parapsoriasis.

DR. HARRIS reported the case shown several times previously of an old gentleman with a very extensive lupus vulgaris which began at the age of 57. He had entered the hospital a few weeks previously, *in extremis*. All the areas which had shown frank lupus had now apparently involuted so there was no erythema and nothing but the scars were left. Postmortem examination revealed massive tuberculous ulcers in the colon and two perforating ulcers in the lower part of the ileum. Biopsy showed tuberculosis. He also had several lesions of tuberculosis cutis verrucosa.

DR. McEWEN said the lesions on the skin came on the site of a partial scald which occurred when the patient was working on the drainage canal. At that time he was in the early sixties. The tuberculous lesions occurred on the site of the scald.







JAMES CHEW JOHNSTON, M.D

## Necrology

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JAMES CHEW JOHNSTON, A.B., M.D.

1869-1918

Member Medical Commission of the American Red Cross

JAMES CHEW JOHNSTON died at his residence in New York City, May 10, 1918. He was born in Louisville, Ky., July 25, 1869, the son of James Chew Johnston and Julia Nicholas. His primary education was received in the schools of Louisville. He received the degree of A.B. at Johns Hopkins University in 1890, and the degree of M.D. at New York University in 1892. He at once took up the special study of pathology and dermatology, and from 1892 to 1898, at various times, occupied the following positions: Instructor in Diseases of the Skin, New York Post-Graduate Medical School; Dermatologist to the Lying-In Hospital; Physician to the Class of Skin Diseases, Presbyterian Hospital; Pathologist to the New York Skin and Cancer Hospital; Assistant Physician to the Department for Skin and Venereal Diseases, New York Hospital. From 1890 until his death he was connected solely with the Cornell University Medical School, of which he was a member of the teaching staff during the entire twenty years of its existence. He was Assistant Instructor in Pathology, 1898-1901; Instructor in Pathology, 1901-1909; Instructor in Dermatology, 1901-1908; Assistant Professor of Dermatology, 1908-1918. In the latter two departments he labored with enthusiasm, and his value to the college on account of his unusual attributes was very great.

During his early professional life he was chiefly interested in the histopathology of diseases of the skin. His writings on this subject all revealed careful, thorough work and a sound knowledge of pathology. This, combined with his general good judgment and well thought-out opinions, made him one of the foremost authorities of his day in this particular field. In later years he was particularly interested in the science of dermatology from the standpoint of the internist. His mind refused to accept as truths theories not proven, and he labored unceasingly to establish the proper relationship between diseases of the skin and various disturbances of digestion and metabolism associated with them. He did much valuable pioneer work in this field, and stimulated the interest of many others along similar lines.

Among his more notable contributions to the literature of his chosen specialty may be mentioned:

Xanthoma Diabeticorum (so-called): Its Place among the Dermatoses.

Cutaneous Paratuberculoses.

Sarcoma Cutis.

White Spot Disease.

Melanoma.

A Papular Persistent Dermatosi: Report of an Undescribed Disease.

Evidence of the Existence of an Autotoxic Factor in the Production of Bullous Diseases.

Studies in the Metabolism of Certain Skin Disorders.

Some Toxic Effects in the Skin of Disorders of Digestion and Metabolism.

Speculation as to the Causation of Eczema.

He was the first to point out the association between scleroderma and hypopituitarism as evidenced by the high glucose tolerance found in scleroderma, and the favorable influence exercised by the administration of pituitary extract. Unfortunately he wrote nothing on the subject, contenting himself with discussion of the subject at various society meetings.

His strong yet kindly nature combined with the sound training of an unusually keen mind made Dr. Johnston a teacher of great ability. His didactic lectures and clinics were models of clearness and simplicity, and he always avoided beclouding the subject with abstruse, intricate discussions. His methods were a departure from the usual uninspiring lecture and his students were enthusiastic in their praise of his teaching. His class-room manner was firm, but there was ever a congenial relation between master and pupil.

His well-developed powers of observation, his sound knowledge of pathology, and his broad grasp of the general principles of medicine all combined to make him a clinician of the highest rank. During the last few years of his life he devoted most of his time to the ever-increasing demands of a large private practice. His strength of personality, his genial disposition, and his keen sense of humor made his relation with his patients a delightful one and they bear abundant witness to his skill and devotion.

In 1896 Dr. Johnston was made assistant editor of *The Journal of Cutaneous and Venereal Diseases* under Dr. Fordyce as editor. In January, 1897, Dr. Fordyce resigned and Dr. G. K. Swinburne took his place. THE JOURNAL then covered dermatology, syphilology, venereal diseases and genito-urinary surgery. Dr. Swinburne assumed the responsibility for the department of genito-urinary surgery and venereal diseases, while Dr. Johnston had editorial control of dermatology and syphilis. The genito-urinary and venereal side of THE JOURNAL gradually declined in interest and volume, and to Dr. Johnston must be given the credit of conducting the publication successfully through a crisis. He made it more and more a journal of dermatology and syphilology. Not only did the larger editorial burden fall on his shoulders but it was necessary for him to publish it and see that it was financed. It was during Dr. Johnston's reign that THE JOURNAL was taken over by a syndicate composed of members of the American Dermatological Association for the purpose of dividing the financial responsibilities and to assure its continuation in a high standard. At the same time venereal diseases and genito-urinary surgery were excluded and the name changed from *The Journal of Cutaneous and Venereal Diseases* to THE JOURNAL OF CUTANEOUS DISEASES INCLUDING SYPHILIS. Dr. Johnston resigned the editorship in 1902 in favor of Dr. A. D. Mewborn. Dr. Johnston was well-fitted for editorial work by education and training and had ideas of his own. He made many friends and innocently caused some bad feelings. Shortly after resigning the editorship he wrote a short article relating some of his experiences and giving some impressions. The article is a masterpiece and should be read by all interested in medical literature or editorial work.

Dr. Johnston was a member of the American Medical Association; of the New York Dermatological Association since 1896, and was its president in 1899 and 1916; of the American Dermatological Association since 1897.

Shortly after the entrance of the United States into the war, Dr. Johnston offered his services to the American Red Cross and was detailed as an aide to the Medical Commission of the American Red Cross in France. He sailed for Europe early in December, 1917 to assume the duties of his position, which he entered into with characteristic energy and thoroughness. His devotion to his work was the subject of special commendation. His health already undermined by many years of conscientious attention to the varied duties of a busy professional life, the severe strain of this new work proved too much for his physical endurance and resulted in a complete break-down. Dr. Johnston was invalided home but failed to regain his health and died shortly



after reaching this country. He gave his utmost for the ideals which are the foundation of his profession, and his name stands on the honor roll with those who have made the supreme sacrifice at their country's call.

In the untimely death of Dr. James Chew Johnston, American dermatology has lost one of its brightest ornaments; his many friends and patients, a kindly helpful influence; and those who were associated with him professionally, a definite inspiration. With a sense of deep appreciation we render this tribute to the memory of a colleague who held our affection, and we extend our sympathy to his family in their great loss. H. J. S.

## MEYER L. HEIDINGSFELD, M.D.—1871-1918

When Robert Louis Stevenson wrote the dedication of "Underwoods," he must have had in mind a medical man of the type of Dr. Meyer L. Heidingsfeld:

"There are men and classes of men that stand above the common herd; the soldier, the sailor and the shepherd not unfrequently; the artist rarely; rarer still, the clergyman; the physician almost as a rule. He is the flower (such as it is) of our civilization; and when that stage of man is done with, and only remembered to be marveled at in history, he will be thought to have shared as little as any in the defects of the period, and most notably exhibited the virtues of the race. Generosity he has, such as is possible to those who practice an art, never to those who drive a trade; discretion, tested by a hundred secrets; tact, tried in a thousand embarrassments; and what are more important, Herculean cheerfulness and courage. So it is that he brings air and cheer into the sickroom, and often enough, though not so often as he wishes, brings healing."

Loved by his patrons and associates, respected and admired by his colleagues, and possessing an international reputation in the field of his chosen specialty, Dr. Heidingsfeld had just arrived at the zenith of his professional career when, after a painful and lingering illness, extending over a period of many weeks, he passed to his final reward on Sept. 3, 1918.

Many of his dermatological confrères last saw him at the Chicago meeting in June. Even at that time his health was not of the best, and he was urged to take a long and much needed vacation. So long as there was work to be done, however, his periods of rest were few and far between, and, in addition to the multitudinous duties incidental to an enormous private practice, he always found time for much dispensary and charity work, and a comparatively great amount of research study.

Few American writers have added more to our knowledge of dermatology than Dr. Heidingsfeld. While a critic might at times disagree with his conclusions, no one ever could honestly doubt his sincere efforts to uncover the basic facts. His industry and splendid enthusiasm incited many a younger dermatologist to do more and better work.

From the social side, Dr. Heidingsfeld was one of the most charming and attractive of men, as those of us who attended the Cincinnati meeting of the American Dermatological Association, in 1917, realized. Had we been his own personal guests, he could not have gone to greater exertion to ensure us every comfort and pleasure, and his hospitality on that occasion will always be gratefully remembered.

Dr. Heidingsfeld was graduated from the Ann Arbor High School in 1889; the University of Michigan (Ph.B.), 1893, and the Medical Department of the University of Cincinnati (M.D.), 1895. He was Resident Physician of the Cincinnati General Hospital in 1895-1896, and the internship was followed by three years of graduate work in Paris, London, Berlin and Vienna.



MEYER L. HEIDINGFELD, M.D.





He was head of the Department of Dermatology of the University of Cincinnati for six years, and associate and head of the Department of Dermatology of the Cincinnati General Hospital for ten years. He served as secretary of the Dermatological Section of the American Medical Association in 1906-1907. At the time of his death he was vice president of the Ohio Valley Medical Association, and chairman of the Dermatological Section of that organization.

He is survived by his widowed mother, two brothers, Ben S. Heidingsfeld of Cincinnati, and Oscar Heidingsfeld of Greenfield, Ohio, and one sister, Mrs. A. H. Skall of Cleveland.

R. L. S.

## BOOK REVIEWS

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### DISEASES OF THE SKIN—THEIR PATHOLOGY AND TREATMENT.

By Milton B. Hartzell, A.M., M.D., LL.D. 753 pages, 51 colored plates and 242 cuts in the text. *J. B. Lippincott Company, Philadelphia, 1917.*

An excellent textbook has made its appearance in dermatological literature. The exigencies and stress of the times have no doubt had the effect of mildly dampening its reception, as in less belligerent days it seems certain that it would have met with a most enthusiastic welcome which it justly deserves. It is not surprising that it is good, as nothing less than that could be expected from Dr. Hartzell's pen. After stating that the work meets with all the requirements of a fine textbook and is of great value, there seems little else to say, except that it is the unfortunate rôle of the critic to pick flaws (a thankless task by the way) and though there are exceedingly few, they will be mentioned along with the many superior features.

The classification and technical arrangement of the subjects are much the same as other textbooks on dermatology, and the method of describing each disease, giving definition, symptomatology, diagnosis, etc., does not vary from the usual. One of the charming features, for which many long-suffering students and practitioners will offer up fervent thanks is, that redundancy is eliminated, and still in describing a disease, all is said that is necessary. Boredom is the sequel of verbosity.

Some rather sharp adverse criticism has reached the ears of the reviewer in his various peregrinations among dermatologists, in regard to the absence of a bibliography; this feature or rather lack of it, seems to have struck a discordant note. Perhaps this criticism is justified to a degree, though it does not seem to the reviewer a great drawback. Mention is made occasionally in the text of original communications, and workers in special fields, though more of this might have been done without disadvantage.

The chapter on eczema is especially good; it is not too long; it is well rounded out, and the pen picture of the disease is clear and well drawn.

Allah be praised, that the author has refrained from going into a long dissertation or harangue about the never-to-be-ended argument, of whether eczema and dermatitis are the same. He calls brief attention to this controversy, and leaves the subject as it should be left—out of all well regulated textbooks. In the section on the pathology of eczema, in discussing whether the process begins in the epidermis or corium, Leloir and Vidal, Crocker and others are quoted as believing it to begin in the epidermis, while Unna and others also think that it begins in the epidermis. This paragraph would cause the reader to infer that the author meant to quote one group of workers, as believing one thing, and the other group having the opposite view. Perhaps this is a typographical error. In speaking of the degrees of moisture, the word "moister" is used; this is a new one, perhaps coined by the author, and it must be confessed, that it is not very euphonious.

The chapter on syphilis is well written and keeps up to the general excellence of the book. The subject of syphilis is so huge and the literature so vast, that it would be impossible to encompass it, except in the briefest manner, in one chapter of a textbook; the author, however, has shown a distinct art in knowing what to leave in and what to leave out. It is not easy to abridge knowledge.

There is room for improvement in the section on skin tuberculosis; the separate diseases under that heading are just as lucid and well handled as any other part of the text, but the technical arrangement is not a very happy one. Several of the true tuberculosis of the skin, such as tuberculosis cutis verrucosa, lupus vulgaris, etc., are described, when the author leaves the subject to take up the tuberculids, returning to it in the description of tuberculosis orificialis and scrofuloderma; the latter two diseases might better be placed with their kind.

The short article on sarcoid is splendid, better than has appeared in any other work on cutaneous medicine and the author is to be congratulated on bringing some order to a very chaotic subject. To temper this slightly, it can be said that the Spiegler-Fendt type could stand a little more elucidation.

One would like to mention every subject in the book, did space permit.

Looking on the treatise as a whole, it has many points of superiority; it is printed on particularly good paper; the type is a little larger than usual, which is an especially attractive feature, and the illustrations are profuse and of a high order of excellence. It might be added here that the colored plates are better than those of most textbooks and compare favorably with the best atlases.

The text has distinct literary excellence; the style is easy and direct, and it is not burdened with innumerable adjectives; in other words, it is good "understandable" English. The author has accomplished the fact of having his language unvarnished though still retaining its polish.

Lastly, the volume embodies in a concise way, most of the facts of dermatological science, set forth in a logical, clear and comprehensive manner. It is "meaty" with all the frills and furbelows cut away; it is a pleasure to read, and a valuable addition to any one's library.

Those who really care for what is worth while in dermatological science will be grateful for this new work, for it possesses a certain distinction and literary grace.

The last word is a query for the publishers; would it not be a good thing to have the pages cut?

W. B. T.

THE THIRD GREAT PLAGUE: A Discussion of Syphilis for Every-Day People. By JOHN H. STOKES, A.B., M.D., Chief of the Section of Dermatology and Syphilology, the Mayo Clinic, Rochester, Minn.; Assistant Professor of Medicine, the Mayo Foundation Graduate School of the University of Minnesota. 12mo, 204 pages, illustrated. *W. B. Saunders Company, Philadelphia and London, 1917.* Cloth. \$1.50 net.

If this book has the wide circulation that it deserves, the day will not be very far distant when the public will awaken to the fact that only through their intelligent cooperation can a disease now four centuries old be controlled. To confuse syphilis with other sex issues is a mistake, as the author points out; and to know about syphilis is in no sense incompatible with clean living or thinking.

The first ten chapters give an exposition of the modern views and advances made in this disease; the next six chapters are devoted to the social and hygienic problems which must be solved. Of all the good chapters the best is the one on mental attitudes in relation to syphilis. The reviewer hopes that the public will take particular note of what Dr. Stokes says in this chapter, particularly the following: "To the remaking of the traditional attitude of harsh, unkindly judgment upon those unfortunate enough to have a terrible disease, we must look for our soundest hope of progress." Reformers should also note the author's advice to temper their ardor in the venereal propaganda with reasonableness and conservatism.



The book should be in every doctor's reception room and also in every library and reading room.

The author deserves the congratulations of the medical profession for his splendid presentation of the subject.

### THREE CLINICAL STUDIES IN TUBERCULOSIS PREDISPOSITION.

By W. C. RIVERS, M.R.C.S., D.P.H. Tuberculosis Officer, Barnsley District, West Riding, Yorks; Late Resident Medical Officer, Northumberland Sanitarium, and Senior Clinical Assistant, Throat Hospital, Golden Square, London. *George Allen and Unwin, Ltd., London.* 1917.

The book is divided into three parts: Part 1 deals with consumption and ichthyosis; Part 2, with consumption and squint; Part 3, with consumption and nasal abnormality (nontuberculous). The 213 pages of reading matter describe the author's personal observations on consumptive patients, presenting also the above-mentioned pathologic conditions.

The association of ichthyosis and xerosis with phthisis is a relatively common occurrence, to which attention was attracted by the publications of Gaskoin, Lewin, Tommasoli, du Mesnil and Crocker. Rivers devotes the first forty pages of his book to this phenomenon. In a compilation of 1,600 consumptives, examined over a period of eight years, the author discovered the incidence of ichthyosis in 23, or 1.4 per cent. In 500 nontuberculous patients, ichthyosis was present in only one case, 0.2 per cent. Rivers attributes the dermatosis to possible exogenous infections, and to various disturbances of the nasal mucosa, including nasal anomalies and defects in development.

### RADIUM THERAPY IN CANCER AT THE MEMORIAL HOSPITAL.

NEW YORK (First Report, 1915-1916). By HENRY H. JANEWAY, M.D., with the discussion of treatment of cancer of the bladder and prostate by BENJAMIN S. BARRINGER, M.D., and an introduction upon the physics of radium by GIOACCHINO FAILLA, E.E., A.M. *Paul B. Hoeber, New York.* 1917.

While the Memorial Hospital instituted its radium department in 1914, it did not possess, until 1915, sufficiently large amounts of radium for a thorough practical test. The men in charge of the work have made a determined effort to ascertain the best methods of radium application and, also, the amount of good that can be accomplished in the treatment of cancer by radium. A perusal of the book demonstrated that a great deal has been learned regarding technic and the results to be expected in cancers of different types, of varying duration, in different locations.

The first section of the book is magnificent. We have never had the pleasure of reading such an excellent summary of the physics of radium as presented by Failla in this section.

The second section, by Janeway, is devoted to the treatment of cancer of all parts of the body with the exception of the bladder and prostate. There is a great deal of valuable practical and theoretical knowledge in this section. We are glad to note that the author is very conservative and gives results without making any unreasonable claims. The word cure is not used because the work has been going on for only about two years. Most of the section deals with cancer of the viscera and only in a general way interests the dermatologist. Of more interest to members of our specialty are the results obtained in epithelioma of the tongue, lips, skin, etc. Twenty-five cases of lip cancer were treated with complete clinical retrogression in six. In these six cases the growth was in the early stage and in two patients the lesion was really preepitheliomatous. Of cancer of the tongue, fifty-eight cases were treated with complete clinical retrogression in four. In these four cases there was an immediate recurrence in three. Ninety-five cutaneous epitheliomas

were treated, sixty-seven of which underwent complete clinical retrogression, and in the majority of instances the result was obtained in one treatment.

A number of nevi were treated and it is stated that nevi yield with especial susceptibility. No mention is made of the type or types of nevi treated. Probably the statement is in reference to the thick, vascular nevi. The accompanying table summarizes the work done and the results obtained.

RÉSUMÉ OF RESULTS OBTAINED IN THE TREATMENT OF CANCER AND  
SARCOMA WITH RADIUM AT THE MEMORIAL HOSPITAL,  
NEW YORK

Location of Lesion	Patients Who at One Time Reached a Clinical Retrogression	Patients Who Are Free from Recurrence for One Year or Longer Exclusive of Skin Cancer and Giant Cell Sarcoma	Improved	Under Treatment	Prophylactic	Unimproved	Benign	Total
Lip.....	6	4	6	1	..	12	..	24
Nose.....	..	..	..	..	..	2	1	3
Superior maxilla...	4	2	11	2	1	9	..	25
Cheek.....	4	2	3	3	1	3	..	11
Lower jaw.....	1	..	5	3	..	6	..	12
Epulides.....	5	..	..	..	..	..	..	5
Floor of mouth...	1	..	4	3	..	1	..	6
Cancer of tonsil...	6	2	14	7	..	6	..	26
Cancer of tongue..	4	2	22	2	..	24	..	50
Cancer of larynx..	4	..	7	..	..	16	..	27
Esophagus.....	1	1	6	1	..	15	..	22
Stomach.....	..	..	4	4	..	3	..	7
Rectum.....	3	1	13	7	..	18	..	34
Penis.....	1	..	4	3	1	2	..	8
Vulva.....	..	..	..	..	..	1	..	1
Uterus.....	4	1	2	2	..	2	1	9
Breast.....	1	1	8	2	3	1	..	21
Parotid.....	2	1	2	2	..	1	..	5
Neck.....	1	1	4	1	..	6	..	11
Teratoma.....	4	1	1	1	..	..	..	5
Skin.....	66	..	7	7	..	20	..	93
Lymphosarcoma..	2	2	5	5	..	..	..	7
Sarcoma.....	..	..	6	3	..	6	..	12
Totals.....	120	21	134	59	6	162	2	424

The third section deals with radium treatment of bladder and prostatic carcinoma. The special technic for the work is briefly described. Twenty-five cases of bladder cancer were treated, all but two of which were inoperable. In four cases the growth disappeared. One has remained well for ten months; one for five months; one was a recent case; one had a recurrence.

Thirty cases of prostatic carcinoma were treated. Nineteen of these thirty cases were advanced. Four of these nineteen patients died and one is dying, while one has not continued under observation. In three cases it was necessary to operate for the relief of retention. Two patients distinctly improved. The remaining cases were very recently treated.

Eleven cases were early carcinomata. One patient died, six patients improved, while four cases were treated very recently.

# THE JOURNAL OF CUTANEOUS DISEASES

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## Original Communications

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### TUBERCULOSIS OF THE SKIN

AN INTRODUCTION TO A SYMPOSIUM \*

SIGMUND POLLITZER, M.D.

NEW YORK

For several years following the discovery of the *Bacillus tuberculosis* the conception of cutaneous tuberculosis was very simple and remained limited to a few diseases in which the infection took place through the integument. These dermatoses, of which lupus vulgaris and tuberculosis cutis verrucosa are types, are characterized clinically by great chronicity, asymmetrical distribution, peripheral extension and a marked destructive tendency.

#### EARLY STUDIES OF THE SUBJECT

The connection of lichen scrofulosorum, acne cachecticorum, erythema induratum and a few other dermatoses with tuberculosis had long been suspected on clinical grounds. At the International Dermatological Congress held in London in 1896, the question of the relation of these diseases to tuberculosis was the subject of discussion, and Hallopeau attempted a classification based on true bacillary infection and on the effects of tuberculotoxins. In the same year Darier introduced the conception of tuberculids under which he included a group of dermatoses which, while manifestly standing in a clinical relation to tuberculosis, are of unknown pathogenicity, in contradistinction to the dermatoses of known tuberculo-bacillary origin. This group in a general way was characterized by a certain benignity—in contrast to the destructive forms of the older bacillary tuberculosis—by a tendency to spontaneous cure, by a wide and commonly symmetrical distribution, by the frequent occurrence in successive crops, and often by the absence of typical tuberculous structure.

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\* Received for publication June 24, 1918.

\* Read before the Section on Dermatology at the Sixty-Ninth Annual Session of the American Medical Association, Chicago, June, 1918.



## ADOPTION OF THE NAME TUBERCULID

The conception of the group of tuberculids served a valuable purpose in stimulating study and discussion of the subject, though the tendency today is to employ this term for all tuberculous processes in the skin in which tubercle bacilli have been found, in analogy to the term syphilid for cutaneous lesions in which spirochetes are present. We recognize today a large and protean group of diseases which are distinctly of tuberculo-bacillary origin, either direct or hematogenous; and a second group of which we can say that they seem to bear some relation to tuberculosis, but the proof of this relation is still lacking.

## DEFINITE DIAGNOSTIC SIGNS

The only absolutely diagnostic feature of a tuberculous process in the skin as elsewhere is the demonstration of tubercle bacilli, either by histologic or cultural methods or by animal inoculation or the occurrence of a distinct focal reaction after tuberculin injection. The histologic structure of the lesion is by no means diagnostic. The classic picture of tubercle as described by Virchow — lymphoid, epithelioid or giant-celled — establishes a certain degree of probability of the tuberculous nature of a given process, but on the one hand this picture may be absent in a definitely tuberculous lesion, and on the other a variety of nontuberculous lesions, such as leprosy, syphilis and sporotrichosis, may present the same picture.

Far from producing a single typical reaction in the tissues, the tubercle bacillus may occasion a variety of histologically very different lesions. In the ulcerating tuberculous lesions of the mucosa, for instance, where tubercle bacilli are commonly present in great abundance, the usual picture is simply that of diffuse granulation tissue. The reaction of the tissues — sclerosing, exudative, elephantiasic or keloidal processes — varies with the number and virulence of the germs and the resistance of the individual, wherein the different factors grouped under the term immunity come into play.

## DISTRIBUTION OF TOXINS BY THE CIRCULATION

In a tuberculous lesion of the skin changes in the tissues often occur at points situated at considerable distances from the location of the bacilli, changes produced apparently by the action of diffused tuberculo-toxins. To what extent, if any, the circulation of such toxins derived from a visceral focus of tuberculosis plays a rôle in the causation of some dermatoses frequently associated with visceral tuberculosis, is still a moot question.

## SUMMARY OF DIAGNOSTIC SIGNS

A probable diagnosis of cutaneous tuberculosis will rest on (1) the sum total of clinical and microscopic characters, (2) the history of the case, and (3) the general condition of the patient. For the proof of the tuberculous nature of such a lesion we must demand the demonstration of bacilli, or at least a clear focal reaction after tuberculin injection.

## CLASSIFICATION

In accordance with the foregoing, the following dermatoses are recognized today as tuberculous:

Lupus vulgaris, lupus miliaris disseminatus, tuberculosis cutis verrucosa, scrofuloderma, erythema induratum, subcutaneous sarcoid, tuberculosis ulcerosa, acute miliary tuberculosis, lichen scrofulosorum, and papulo-necrotic tuberculid.

In a second group of dermatoses the relation to the tubercle bacillus may be said to be a matter of suspicion, but the proof of this relation has not been established. The most important members of this group are multiple benign sarcoid, lupus pernio, lupus erythematoses, granuloma annulare and diffuse exfoliating erythrodermia. It will be the work of the future to clear up the relations of these dermatoses to the tubercle bacillus in the skin or tuberculous processes in the viscera.

## DERMATOSES POSSIBLY RELATED TO TUBERCULOSIS

MAX SCHEER, M.D., AND JOHN E. LANE, M.D.  
NEW YORK NEW HAVEN, CONN.

The diseases considered under the above title are limited in this paper to lupus erythematosus, the erythrodermias and lichen nitidus. The greatest strife has centered about the pathogenesis of lupus erythematosus and the battle is still undecided.

### LUPUS ERYTHEMATOSUS REVIEW OF THE LITERATURE

In 1904, Jadassohn<sup>1</sup> in a comprehensive and critical review of the literature concluded that there was no definite etiologic relationship between lupus erythematosus and tuberculosis.

In 1912, the masterly review of Lewandowsky<sup>2</sup> appeared with a critical analysis of the literature since 1904. As his article may not be readily accessible, a brief summary of his data is here given.

Civatte, in 1907, addressed a communication to dermatologists in many countries requesting their views as to the relationship under discussion. There were three points of view expressed. Some believed in a relationship between lupus erythematosus and tuberculosis; others denied it, and still others considered the manifestations of the disease to be the effect of some toxin.

In 1908, Ehrmann and Reines produced tuberculosis in a guinea-pig by inoculation of tissue from lupus erythematosus. The patient gave a local and general reaction to 1 mg. of tuberculin.

In 1910, Arndt found tubercle bacilli by the antiformin method in two cases of lupus erythematosus.

A case of Hoffman's (mentioned by Arndt) and one of A. Wolff's showed local reaction. On the other hand, Jadassohn and Finger have not seen local reactions to tuberculin in lupus erythematosus.

A case of Finger's in which lupus erythematosus was associated with lichen scrofulosorum and erythema induratum was tested with tuberculin; the last two diseases reacted locally but the lupus erythematosus did not.

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1. Jadassohn, J.: *Lupus Erythematodes*, Mrazek, *Handbuch der Hautkrankheiten*, 1904, 3, p. 298.

2. Lewandowsky, F.: *Die Tuberculose der Haut*, *Ergebnisse der allgemeinen Pathologie*, p. 1912.

## CLINICAL EVIDENCES OF CONSTITUTIONAL TUBERCULOSIS

Jadassohn calls attention to the constantly negative local reaction and the frequent absence of general reactions.

Due to the paucity of bacteriologic evidence, workers in this field have resorted to clinical studies to justify their claims.

The incidence of a history or evidences of tuberculosis in lupus erythematosus is variously given by various writers, some as high as 80 per cent. Jadassohn does not believe that the percentage of tuberculosis (as judged by history or clinical findings) is higher in patients with lupus erythematosus than in those suffering from other diseases.

The association of lupus erythematosus with tuberculous adenitis (cervical) has been frequently observed. An amelioration of the lupus erythematosus following extirpation of the glands has been observed by Delbanco, Bender, Pospelow and many others.

Lupus erythematosus and lupus vulgaris are very rarely associated. Spitzer in 1907 and Kyrle in 1909 have recorded cases. Further confusion is caused by the affection described by Leloir as lupus vulgaris erythematoïdes. This is a lupus vulgaris which clinically closely resembles lupus erythematosus, but has the histology of lupus vulgaris.

Lupus erythematosus has also been found associated with tuberculids and with lichen scrofulosorum.

## NECROPSY FINDINGS ARE VARIOUS

The ordinary type rarely comes to necropsy. In a case examined by Kren in 1905 no evidence of tuberculosis was found at necropsy.

In acute lupus erythematosus Reitman and Zumbusch found pulmonary tuberculosis in five out of six cases. Pernet found, in one case, histologic evidence of tuberculosis in the retroperitoneal glands, but no bacilli and no evidence of tuberculosis elsewhere. In a case of Poland's, death resulted from acute miliary tuberculosis. On the other hand, Shorts' patient and Verotti's patient revealed no evidence of tuberculosis at necropsy. Also, no mention is made of findings of tuberculosis in necropsies of four cases recorded by Kraus and Bohac. In a case described by Arning in which during life the Wassermann reaction was strongly positive, the necropsy showed no evidence of tuberculosis or syphilis. Hanck and Feuerstein observed in a case of lupus erythematosus acutus a parallelism between the intensity of the lupus and that of the Wassermann reaction.

## NOT A DEFINITE CLINICAL ENTITY

In view of the foregoing findings Lewandowsky concludes that lupus erythematosus is not a clinical entity but is a form of skin reaction due to some toxin; in some cases the tubercle toxin, but an unknown toxin in others.



The analysis of Lewandowsky has been presented in some detail, as the accessible literature since 1912 has been meager and has not contributed essentially to the solution of the problem.

Bloch and Fuchs,<sup>3</sup> in 1913, again reviewed the subject and reported some interesting investigations of their own. They inoculated cell-free extracts of tissue from lupus erythematosus into individuals hypersensitive to tuberculin and in two cases produced reactions—papules at the site of inoculation which showed a tuberculoid structure. In four cases they demonstrated the presence of inoculated tuberculosis in guinea-pigs from lupus erythematosus tissue. The authors discount the possibility of accidental inoculation of tubercle bacilli.

Weiss and Singer<sup>4</sup> in a careful study of twelve cases of lupus erythematosus discoides in which they correlated clinical findings, roentgen-ray examinations and tuberculin tests, found evidences of tuberculosis, past or present, in at least ten of the cases. They point out, however, that these findings do not furnish any evidence of an etiologic relationship but rather show the universality of tuberculous infection.

In the summary just given, much of the literature has necessarily been omitted. But from what has been presented it seems that the weight of clinical evidence is against the assumed relationship. It is probable that clinical investigations have contributed all that it is possible for them to contribute to the elucidation of this subject. The experimental work of Bloch and Fuchs, however, seems to be quite definite in its results and it is to be hoped that further work on these lines will be undertaken. And it is likely that by further studies of this nature the riddle of lupus erythematosus will be solved.

#### EXFOLIATING ERYTHRODERMIAS

The relation between the exfoliating erythrodermias and tuberculosis has been thoroughly reviewed by Lewandowsky.<sup>2</sup> As no new studies since 1912 have been available, we shall perforce give a brief résumé of his review.

The association of pityriasis rubra of Hebra with tuberculosis has been described by Jadassohn, Kanitz, Poland, Foster, O. Miller, Halle and others.

The only authentic case, however, is that described by Bruusgaard. This was a case of exfoliating erythrodermia associated with universal

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3. Bloch, B., and Fuchs, H.: On the Relation of Chronic Lupus Erythematosus to Tuberculosis, *abst.*, THE JOURNAL CUTAN. DIS., 1914, 32, p. 523.

4. Weiss, R. S., and Singer, J. J.: The Relation of Lupus Erythematosus Discoides to Tuberculous Infection, *Am. Jour. Med. Sc.*, April, 1918.

tuberculosis of the lymph glands in which typical tubercles were present in the skin; typical bacilli were found in these tubercles.

A case of Finger and Wertheim, and one of Kopytowski and Willowilyski showed a tuberculoid structure of the skin.

But the majority of cases of exfoliating erythrodermia have shown no evidence of tuberculosis of the skin; and the disease, like lupus erythematosus, is probably a skin reaction to some toxin, tubercle or other.

#### LICHEN NITIDUS

Of the dermatoses possibly related to tuberculosis, lichen nitidus alone shows a typical tuberculous structure.

Evidence of associated tuberculosis—tuberculin reaction, tuberculous glands, and other signs—has been furnished by the cases of Kyrle, Sutton, and Lewandowsky. Arndt found Much's granules.

But animal experiments have been negative and the clinical appearance of the lesions, their long duration without change, certainly do not suggest tuberculosis.

Owing to the rarity of the disease there have not been sufficient studies of late years to add to the remarks of Lewandowsky in his review.

#### OTHER DISEASES POSSIBLY OF TUBERCULOUS ORIGIN

*Erythema nodosum* in which tubercle bacilli were found belongs to the erythema induratum group.

The only erythema positively related to tuberculosis is that produced by the injection of tuberculin.

Other erythemas associated with tuberculosis are probably accidental.

*Pigmentations* associated with tuberculosis (excluding Addison's disease) have been described by Fournier and by Vignolo-Lutati. The source of such pigmentation is unknown.

The evidence of the relationship between *angiokeratoma* and tuberculosis is so meager that it can be discarded. The association is probably purely coincidental. The histologic changes are not characteristic of tuberculosis.

In the disease called *angiolupoid*, described by Brocq and Pautrier in 1909, the histology was that of tuberculosis. However, no bacilli were present and animal inoculations were negative. The patients were all tuberculosis suspects.

Some cases of *parapsoriasis* have been considered as tuberculids by Milan and Civatte, and others on the ground of histologic findings. But Arndt considers these as atypical cases of lichen scrofulosorum.

## CONCLUSIONS

From the foregoing account one may draw the conclusion that there is little conclusive evidence of a direct relationship between the dermatoses in question and tuberculosis.

Whenever tuberculosis has been found it can much more easily be assumed to have been a *coincidence* rather than an *etiologic* factor. This is stated in full realization of the danger of too energetically breaking down tradition and substituting the hypothesis of skin reactions for clinical entities. Nevertheless, too little is known definitely to admit of any other point of view at present. With more certain methods of investigation perhaps some of the older assumptions will be fortified.

## MULTIPLE DISSEMINATED LUPUS VULGARIS \*

H. H. HAZEN, M.D.

Professor of Dermatology, Georgetown University School of Medicine,  
and Howard University School of Medicine

WASHINGTON, D. C.

### INTRODUCTION

Cases of lupus vulgaris in which many lesions appeared either at the same time, or within a few days of each other, have been reported by some of the older writers. However, it was not until 1892, when Philippon reported two such cases following scarlet fever, that the significance of a preexisting exanthem began to be appreciated. In 1898, Du Castel again emphasized this relationship, and Adamson followed him in 1899. In 1904, Adamson again called attention to the fact that multiple lupus not infrequently follows measles, or some other of the exanthems, and collected twenty-eight cases. In 1914, Bourgeois gathered fourteen cases of multiple verrucose tuberculosis, most of which were preceded by one of the acute eruptive diseases.

### REPORT OF CASES

**CASE 1.—History.**—The patient was a farmer, aged 28, who entered the clinic because of multiple ulcerations. He stated that when 12 years of age he had suffered from an attack of measles and that one month later "numerous small red spots" had appeared almost simultaneously on his chest and limbs. These slowly increased in size, and eventually ulceration took place. There was no family history of tuberculosis, nor did the patient have either signs or symptoms of being thus affected.

**Examination.**—The skin of the arms, legs and trunk showed two types of lesions (Fig. 1): first, ulcers, not over 1 inch in diameter, with clean bases and overhanging edges, typical of tuberculous ulcers. With the diascopé a number of "apple jelly" nodules could be seen at the edges of the ulcers. There were present ten such lesions. The second type was comprised of scars, some of which were very extensive. These were not soft and smooth but were thrown into ridges and furrows and under some of them was considerable induration. The Wassermann reaction was negative. Unfortunately the patient did not reappear and could not again be located.

**CASE 2.—History.**—The patient was a young married white woman, aged 24, who was referred to me by Dr. Valentine. There was no family or past history suggestive of tuberculosis. At 20 she had an attack of measles and even before the rash had faded, numerous red papules had appeared on the face and neck, and also on the elbows and one knee. Two years ago warty growths developed on the index finger of the right hand.

**Examination.**—This revealed a tall, slender woman who was slightly pale and who lacked animation. She, however, stated that she felt perfectly well, except for the depression brought about by her disfigurement. On the face

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there were twenty-three papules, varying in diameter from 1 mm. to a little over 1 cm. (Fig. 2). The lobes of both ears had similar lesions and on the neck there were five. These lesions were of a brilliant dark red color, were sharply circumscribed, and were traversed by numerous dilated blood vessels. To the touch they were rather soft. There was very slight scaling. On both elbows and the left knee there were psoriasis-like lesions, each nearly 3 inches in diameter, and covered with fine whitish scales. There was considerable infiltration, but the lesions so closely resembled those of an inveterate psoriasis

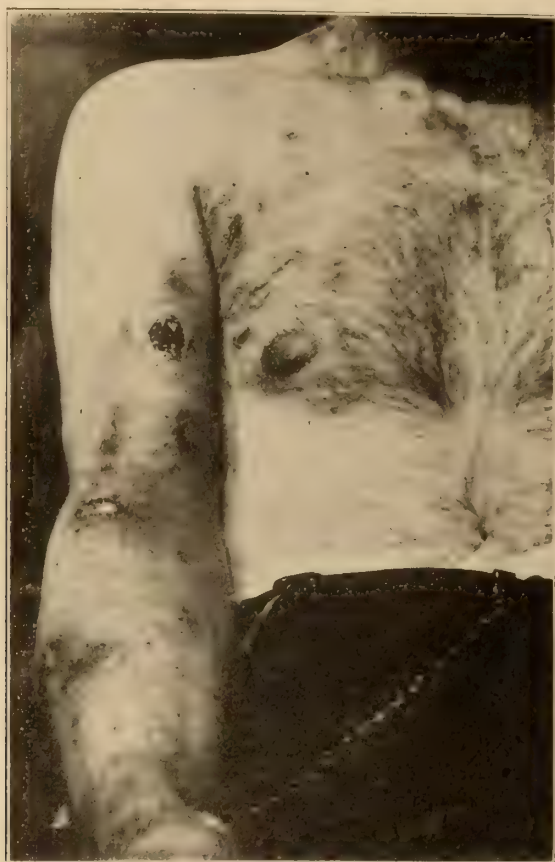


Fig. 1.—Showing the multiple ulcerations and the furrowed scars scattered over the chest and forearm in a case of multiple disseminated lupus vulgaris. Most of the lesions are greatly indurated.

that I was completely led astray as to their true nature. However, a few days after her first appearance, the diagnosis of tuberculosis was concurred in by Drs. John A. Fordyce and Oliver S. Ormsby. This was confirmed by biopsy.

*Treatment.*—The patient was treated by intensive roentgenotherapy, varying sized and variously filtered doses being employed. In all she received six doses to each area, at intervals of about one month. Each was sufficient to produce an erythema. The results were very good. About half of the lesions had disappeared, leaving only faint red scars, and the others were smaller, flatter

and much less brilliant in color. The lesions on both the elbows and knees had decreased considerably in size and color and infiltration. The warty growths on the finger were completely gone. Then the patient suddenly disappeared and could not again be located.



Fig. 2.—The patient, aged 24, has twenty-three infiltrated lesions of lupus vulgaris disseminated over the cheek; similar lesions are also on the ears and neck. The condition closely resembles a case of inveterate psoriasis.

#### ETIOLOGY

For years clinicians have realized that pulmonary tuberculosis, especially in children, was prone to be first noted after one of the exanthems, especially measles. It is generally conceded that even active pulmonary tuberculosis is due primarily to bacilli that have been carried through either the blood stream or lymphatics. In the case of multiple lupus it is at once obvious that external infection cannot be

considered and that we are forced to conclude that the lesions are of embolic character. It is true that many cases of lupus vulgaris are apparently due to direct external infection, but in certain other instances this cannot be satisfactorily proved, and it is highly probable that many of the cases of lupus are due to emboli.

Only a few days ago a woman consulted me, who presented a typical lupus vulgaris of the right cheek. She gave the following history: Ten years before she had measles, two weeks later a red papule appeared on each cheek; in the course of two years, one disappeared but the other has continued to grow. It would seem that this case is analogous to those cited in this paper, but that the lesions were simply fewer in number.

It has generally been believed that tuberculosis verrucosa cutis is due to external infection, but the cases cited by Bourgeois and others would seem to indicate that this form may also be of embolic origin.

#### CLINICAL PICTURES

There is often a typical clinical picture: A child has an attack of either measles or scarlet fever; about the time that the rash begins to fade, or a few weeks thereafter, a crop of red papules appear, and persist, although the child seems perfectly well. In going over the literature of the condition I have been able to collect sixty-four cases, in many of which, however, the notes were only fragmentary, inasmuch as the cases were shown at the various society meetings. In this series there were twenty-six males and thirty-four females, while in four instances the sex was not stated.

As to the preexisting disease, this was found to be measles in forty-one instances, scarlet fever in six, varicella in one, influenza in one, tuberculous glands of the neck in one, unmentioned in eleven, and absolutely denied in three. In seventeen instances the lupus appeared before the rash had faded and in twenty-two other cases it developed within four weeks.

The type of eruption was papular in thirty-seven cases, verrucose in fourteen, psoriasiform in three, ulcerative in one, nodular in one, and mixed in six.

The lesions varied in number from 150, in the case of Philippon, to a comparatively small number. In the majority of instances there were from twenty to thirty lesions.

The face was involved thirty-four times, the scalp twice, the neck in nine instances, the trunk twenty-five times, the arms forty-seven times, the legs in forty-one instances, the elbows and knees four each, the hands ten times, the feet thrice, the buttocks eight times and the genitalia twice.

The lesions themselves need but little description, as they have already been sufficiently described in the case reports. It should be mentioned that, in the vast majority of instances, there is but little tendency for new lesions to appear or for the old ones to increase considerably in size or to ulcerate. In many instances some spontaneous regression occurs.

#### HISTOPATHOLOGY

The histology has been studied by various authors and it is generally agreed that the condition is a typically tuberculous one. In my case, sections from the face showed a condition very similar to that illustrated by Fordyce<sup>1</sup> in Figure 3, illustrating his article on "The Histopathology of Cutaneous Tuberculosis," and sections from a lesion on the elbow showed a condition analogous to that pictured by Fordyce in Figure 8 of the above mentioned article, and also described by Bourgeois. In the former there were characteristic tubercles, largely in the neighborhood of the follicles, but extending deep down along them, and in the latter there was great hypertrophy of the various elements of the epidermis and a more superficial involvement of the corium.

#### DIAGNOSIS

To one who is familiar with the lesions of multiple lupus the diagnosis is easy, but the beginner, or even the experienced dermatologist who has never seen such a case may experience some difficulty in deciding just what the condition is, especially if there be many psoriasiform lesions present. In making a correct diagnosis the following points are helpful: the history of onset following one of the exanthems, the almost unchanging character of the lesions thereafter, the deep red color, often with dilated vessels, the "apple-jelly" colored nodules under the diascope, the sharp edges and the lack of subjective disturbances.

#### DIFFERENTIAL DIAGNOSIS

The papular lesions may be confused with either the sarcoid of Boeck or with the telangiectatic variety of lupus erythematosus. As a general rule sarcoids are rather firmer in consistence, and do not show typical tubercles when observed through a glass slide, although they do show minute brownish spots. Histologically the lesions are different, for sarcoids show groups of either round or epithelioid cells sharply grouped without reference to other structures, both in the superficial and deep portions of the corium, without any evidence of surrounding tissue reaction to them, while lupus shows typical tubercles with surrounding tissue reaction. On animal inoculation sarcoids do not give tuberculosis while lupus does.



The telangiectatic variety of lupus erythematosus is rare, does not follow one of the exanthems, occurs in persons past 18 as a general rule, and shows no yellowish nodules through the diascopé.

The lesions of verrucose tuberculosis must be told from blastomycosis and from verrucose dermatitis. In the former disease the causative organism can usually be demonstrated, and histologically the disease is characterized by miliary abscesses filled with polymorphonuclear leukocytes. Vegetating dermatitis usually occurs as the aftermath of a discharging ulcer or sinus, and may be very difficult to differentiate except by histologic study or animal inoculation.

The results obtained from the various tuberculin tests are to be interpreted with the greatest caution. Specialists in tuberculosis do not recommend the cutaneous tests except in children, for it has been found that nearly every adult will react to them, and the subcutaneous tests are also too delicate to be of any great value except in isolated cases. A positive reaction means practically nothing, while a negative reaction may or may not be of value.

The psoriasiform lesions are usually firmer, denser and more indurated than are the lesions of psoriasis, and they are usually few in number, and do not show the exacerbations and remissions that psoriasis lesions do. Histologically the diseases are totally different.

#### PROGNOSIS

The question of prognosis must be considered from two angles: (1) that of the lesions themselves, and (2) that of the ultimate fate of the patient. As Adamson has pointed out, many of the lesions will spontaneously disappear, and with efficient and long-continued treatment most of them can be cured. In regard to the ultimate prognosis, we must always remember that as Besnier,<sup>2</sup> Leloir<sup>3</sup> and Forschammer<sup>4</sup> have shown, from 10 to 20 per cent. of all patients who have lupus ultimately die from tuberculosis. The mere fact that there has been an acute discharge of tubercle bacilli, the cause of the lesions, shows that there must, in all instances, be an active tuberculous process in some part of the body, hence we must be guarded in our prognosis as to the ultimate outcome.

#### TREATMENT

In all cases the patient must receive the appropriate treatment for tuberculosis, pulmonary or otherwise. In view of the multiplicity of the lesions, surgical intervention can hardly be considered. From a practical standpoint we probably need mention but the Finsen rays and the roentgen rays. Fordyce has told me that he has seen the Kromayer lamp work very well, and in my own cases intensive roentgenotherapy was beneficial.

REFERENCES TO MULTIPLE DISSEMINATED LUPUS VULGARIS MADE IN THE LITERATURE

Author	Sex	Age	Previous Illness	Appearance of Lupus	Type	Distribution
1. Besnier <sup>5</sup> .....	F	4	Measles	2 months	Papular	Trunk
2. Comby <sup>8</sup> .....	M	4	Measles	At once	Papular	Fingers
3. Philippson <sup>7</sup> .....	F	7	Scarlet fever	At once	Papular	Generalized
4. Philippson <sup>7</sup> .....	F	3	Scarlet fever	At once	Papular	Trunk
5. Doutrelepont <sup>6</sup> .....	F	4	Measles	At once	Papular	Trunk, hand
6. Du Castel <sup>9</sup> .....	M	3	Measles	At once	Papular	Face, hands, legs, feet
7. Adamson <sup>10</sup> .....	M	2	Measles	At once	Papular	Trunk, hands
8. Leichenstern <sup>11</sup> .....	M	4	Measles	2 weeks	Papular	Face, limbs, trunk
9. Abraham <sup>12</sup> .....	F	5	Measles	At once	Papular	Face, limbs, trunk
10. Du Castel <sup>13</sup> .....	M	2	Measles	3 weeks	Papular	Face, limbs, trunk
11. Du Castel <sup>14</sup> .....	F	10	Measles	At once	Papular	Face, limbs, trunk
12. C. Fox <sup>15</sup> .....	?	1	Measles	At once	Acne scrofulosorum	Face, limbs, trunk
13. C. Fox <sup>16</sup> .....	F	1	Measles	9 months	Psoriasisiform	Trunk, limbs
14. Haushalter <sup>17</sup> .....	M	11	Measles	1 month	Papular	Face, arms, trunk
15. Haushalter <sup>17</sup> .....	F	3	Measles	At once	Papular	Face, limbs, trunk
16. Du Castel <sup>18</sup> .....	F	4	Measles	4 weeks	Papular	Face, arms
17. Török <sup>19</sup> .....	F	1	Measles	3 weeks	Papular	Face, limbs
18. Jessner <sup>20</sup> .....	F	9	Measles	At once	Papular	Face, limbs, back
19. Pelagatti <sup>21</sup> .....	M	2	Measles	4 weeks	Papular	Trunk, limbs
20. Du Castel <sup>22</sup> .....	F	4	Measles	4 weeks	Papular	Face, arms
21. G. Little <sup>23</sup> .....	F	7	Varicella	At once	Papular	?
22. Leredde <sup>24</sup> .....	?	5	Measles	?	?	?
23. Louston <sup>25</sup> .....	F	4	Measles	2 months	Papular	Face
24. Crocker <sup>26</sup> .....	M	10	Measles	?	Papular	Generalized
25. Crocker <sup>26</sup> .....	M	29	Measles	?	Papular	Generalized
26. Gaucher and Druelle <sup>27</sup> .....	M	8	Measles	2 weeks	Papular	Generalized
27. Adamson <sup>28</sup> .....	F	2	Measles	9 weeks	Papular	Generalized
28. C. Fox <sup>29</sup> .....	M	2	Measles	2 weeks	Papular	Face, limbs
29. Bourgeois <sup>30</sup> .....	M	3	Measles	5 weeks	Verrucose	Arms, knees, buttocks
30. Bourgeois <sup>30</sup> .....	F	5	Scarlet fever	At once	Verrucose	Hands, elbows, buttocks
31. Morris <sup>31</sup> .....	M	5	?	?	Verrucose	Arms, hands
32. Comby <sup>32</sup> .....	M	2	Measles	Soon	Verrucose	Arms, hands
33. Comby <sup>32</sup> .....	M	1	Measles	Soon	Verrucose	Arms, hands
34. Comby <sup>32</sup> .....	F	2	?	?	Verrucose	Arms, feet, vulva
35. Comby <sup>32</sup> .....	F	1	?	?	Verrucose	Hands, fingers, buttocks
36. Hall <sup>33</sup> .....	M	3	Measles	Soon	Verrucose	Face
37. Tobler <sup>34</sup> .....	M	5	Scarlet fever	Soon	Verrucose	Face, limbs, penis
38. Nobl <sup>35</sup> .....	F	3	Measles	Soon	Verrucose, papular	Limbs
39. Scholz and Doebe <sup>36</sup> .....	?	?	?	?	Verrucose	Arms, hands
40. Kraus <sup>37</sup> .....	F	6	Scarlet fever	2 months	Verrucose	Face, limbs
41. Fabry <sup>38</sup> .....	F	12	?	?	Verrucose	Fingers
42. Fabry <sup>38</sup> .....	F	20	?	?	Verrucose	Trunk, limbs
43. Hoffmann <sup>39</sup> .....	M	20	?	?	Verrucose, follicular	Head, neck, limbs, buttocks
44. Smith <sup>40</sup> .....	F	18	?	?	Verrucose	Scalp, face, limbs, trunk
45. C. Fox <sup>41</sup> .....	F	2	Measles	Soon	Papular, psoriasisiform	Knees, elbows, hands, buttocks
46. MacLeod <sup>42</sup> .....	F	4	Measles	Soon	Papular	Face, limbs, buttocks
47. Morrow <sup>43</sup> .....	F	10	Scarlet fever	Soon	Papular	Face, scalp, buttocks, thighs
48. Sequeira <sup>44</sup> .....	M	4	Measles	At once	Psoriasisiform	Face, neck, thighs
49. Ormsby <sup>45</sup> .....	?	?	Measles	Soon	Psoriasisiform	Trunk, limbs
50. Little <sup>46</sup> .....	F	26	None	?	Papular	Face, knees, elbows
51. Foerster and Baer <sup>47</sup> .....	M	5	None	?	Papular	Face, arms, buttocks, legs
52. Sibley <sup>48</sup> .....	M	5	Measles	Soon	Papular	Face, trunk, buttocks, limbs
53. Little <sup>49</sup> .....	F	2	Measles	At once	Papular	Face, trunk
54. MacLeod <sup>50</sup> .....	F	5	Measles	At once	Papular	Arms
55. Little <sup>51</sup> .....	M	1 <sup>1</sup> / <sub>2</sub>	Glands	?	Papular	Legs
56. H. Fox <sup>52</sup> .....	F	28	Grip	Soon	Papular	Generalized
57. Mac Kee and Wise <sup>53</sup> .....	M	20	?	?	Papular and subcutaneous	Face, neck, shoulders
58. Brunsgaard <sup>54</sup> .....	F	4	?	?	Nodules	Limbs, buttocks
59. Pernet <sup>55</sup> .....	F	8	Measles	Soon	Papular	Face, legs
60. Isaac <sup>56</sup> .....	M	5	?	?	Papular, psoriasisiform	Face, body, limbs
61. Pernet <sup>57</sup> .....	F	6	Measles	3 months	Papular	Face, limbs
62. Pernet <sup>58</sup> .....	M	15	None	?	Papular	Face, limbs
63. Hazen.....	M	12	Measles	1 month	Ulcerative	Trunk, limbs
64. Hazen.....	F	20	Measles	At once	Papular, psoriasisiform, verrucose	Face, neck, elbows, knees, hand

## CONCLUSIONS

1. Multiple disseminated tuberculosis is probably not as rare a disease as the scanty literature would seem to indicate.
2. Most often it follows measles, but may follow one of the other acute exanthems, or even another infection.
3. The disease is of embolic origin; in all probability many other cases of lupus follow an acute infection and are also of embolic origin.
4. The disease is probably best treated by intensive roentgenotherapy.
5. The ultimate prognosis must be guarded.

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# SARCOID OF BOECK AND ERYTHEMA INDURATUM OF BAZIN \*

S. E. SWEITZER, M.D.

AND

H. E. MICHELSON, M.D.

Associate Professor and Head of the Division of Dermatology and Syphilology,  
and Instructor in Dermatology, respectively, University of  
Minnesota Medical School

MINNEAPOLIS

The similarity between the subcutaneous form of Boeck's sarcoid and erythema induratum of Bazin presents an interesting study, and may possibly throw some light on the etiology of Boeck's sarcoid, as erythema induratum is generally accepted to be tuberculous in origin.

## RECENT LITERATURE ON THIS SUBJECT

In 1914, one<sup>1</sup> of us reported a case of sarcoid of Boeck and gave a review of the literature. In this paper, attention was called to the comparatively few cases that had been reported in America up to that time. Since then, Zeisler<sup>2</sup> reported an interesting case and gave his views on the subject. In view of these recent papers, a review of the literature is superfluous at this time.

## PRESENT OBSERVATIONS OF THE AUTHORS

Recently another case of sarcoid came under our observation and as we had just studied several cases of erythema induratum, we were able to compare the clinical and microscopic features of these diseases. We were impressed with the strong resemblance of the histologic picture of a subcutaneous sarcoid, with that of a case of undoubted erythema induratum. The sections were identical except that the one from the sarcoid was a growing tumor with vigorous cells and the one from the erythema induratum case had cells that were undergoing retrograde changes. Both sections revealed the same type of cells and both looked like tuberculosis. We believe this case of sufficient interest to justify a full report on it.

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\* Received for publication June 24, 1918.

\* Read before the Section on Dermatology at the Sixty-Ninth Annual Session of the American Medical Association, Chicago, June, 1918.

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## REPORT OF CASE

*History.*—Miss R., aged 33, was first seen April 3, 1917. The patient was born in Michigan. She had smallpox fifteen years ago and scarlet fever one year previous to present examination. Otherwise she had had no diseases. Her father was alive, and her mother died of typhoid fever. Three sisters are living, one of whom is ill, the other two healthy. Patient weighs 122 pounds and is of good physique.

*Pathogenesis.*—The disease began as a lump under the skin of the right cheek seven years ago and gradually involved the skin (Fig. 1). Five years ago, a similar lesion appeared over the left eyebrow (Fig. 2).

*Examination.*—A diffuse infiltrating lesion is located on the right cheek (Fig. 1). It measures 5 and 7 cm., is of a livid red color, and is elevated above the level of the skin. It feels soft to the touch and has numerous dilated capillaries running through it. On pressure with glass it pales considerably, but no apple jelly nodules can be made out. Three scars are present in the lesion due to some caustic being injected into it.

The lesion on the left eyebrow is  $1\frac{1}{2}$  by 4 cm. and resembles the large lesion except that it is a little depressed in the center. A subcutaneous nodule can be felt back and above the right elbow and a similar lesion is present in the left axilla. These lesions started one and three years ago, respectively, and have not, as yet, involved the skin. The Wassermann reaction is negative and the urinalysis is negative.

*Blood Examination.*—This revealed a hemoglobin of 80 per cent. The differential white cell count was: Polymorphonuclears, 60 per cent.; lymphocytes, 24 per cent.; large mononuclears, 7 per cent.; transitionals, 2 per cent., and eosinophils, 2 per cent.

*Roentgen Ray Examination.*—Dr. J. P. Schneider, who examined the chest, reported as follows: Normal rib spacing, normal diaphragm action, normal heart position and outline, parenchyma of lung normal. No infiltrations of a tuberculous character in periphery. In the hilus of the lung on both sides and around the bases of the bronchi, a rather dense, uniform infiltration, which could be a gumma or tuberculous glands, were observed; the tuberculin test was absolutely negative.

*Biopsy.*—This was done April 3, 1917, on the diffuse infiltrating lesion on the cheek. On April 12, 1917, the subcutaneous nodule in the left axilla was cut out and guinea-pig inoculations made by Prof. W. P. Larson. The guinea-pig was killed after six weeks and nothing was found after a careful necropsy.

Sections were made from both pieces of tissue removed. The section from the diffuse infiltrating lesion on the cheek showed a normal epidermis; the tumor mass was divided into round or oval areas separated by connective tissue septums. This lobulated structure is rather characteristic (Fig. 3). The cells were mostly epithelioid with a few round cells. The subcutaneous sarcoid removed from the axilla showed a similar microscopic picture (Figs. 4 and 5). It looked like tuberculosis and presented a very strong resemblance to a section of erythema induratum (Fig. 6).

*Treatment and Results.*—Treatment was started early in April, 1917, with thirty minute exposures from a Kromayer lamp, using a blue filter. No change was noticed from the procedure. Four doses of neoarsphenamin (neosalvarsan) were then given at weekly intervals with no apparent change. Fowler's solution in ascending doses was then tried for two months and was also of no benefit. Tuberculin in ascending doses was then used for two months and was of no value.



Fig. 1.—Sarcoid on the right cheek. It is a diffuse infiltrating lesion, of a livid red color and distinctly elevated.



Fig. 2.—Sarcoid on the left eyebrow. The lesion is slightly depressed in the center.

After the first treatment with tuberculin, a very extensive herpes zoster appeared on one leg. This soon healed and no other untoward results appeared. Carbon dioxid snow was finally tried for forty seconds, using considerable pressure. This was followed by a severe reaction and the face was so swollen that the patient was unable to work, hence she refused further treatment along this line.

One month later, the areas that had been frozen appeared markedly better but the patient was still unable to have any more freezing done on account of the loss of time from her work.

#### ETIOLOGY

Coming to a consideration of the etiology of sarcoid of Boeck, in our first case we had a positive animal inoculation showing a small tubercle. This present case failed to give positive animal results, but the histologic picture strongly resembled that of a tuberculous infection—so also did the roentgenogram of the chest.

In regard to the relatively small number of animal inoculations that have been positive, it is well to remember that if the disease is due to tuberculosis, the germs may die out or be very attenuated and fail to give a positive take. The fact that the patients are often robust is of no significance either way, as we often see patients with lupus vulgaris who are quite healthy otherwise.

#### PROBABLY CAUSED BY A TUBERCULAR INFECTION

Personally, from an extensive study of the literature and of these two cases, we are of the opinion that sarcoid of Boeck is due to tuberculosis. We will admit, however, that a difference of opinion still exists among some writers. Several have attempted to class it as related to syphilis. It is easily told from syphilis microscopically, but some cases have responded to arsphenamin (salvarsan); this is not surprising as tuberculids often respond to arsphenamin (salvarsan).

#### SUGGESTED CLASSIFICATION

Darier,<sup>3</sup> in 1910, in an excellent article divided the sarcoid group into four classes:

1. Multiple, benign sarcoid of Boeck.
2. Subcutaneous sarcoid of Darier-Roussy.
3. Erythema induratum-like sarcoid of the extremities.
4. Spiegler-Fendt type. Nontuberculous, composed of round cells.

Instead of simplifying the subject, we think that this classification has only added to the existing confusion. Type 4 belongs to the

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3. Darier, J.: Die cutan und subcutanen Sarkoide; ihre Beziehungen zum Sarkom, zur Lymphodermie, zur Tuberculose, u.s.w., *Monatschr. f. prakt. Dermat.*, 1910, 1, p. 419.



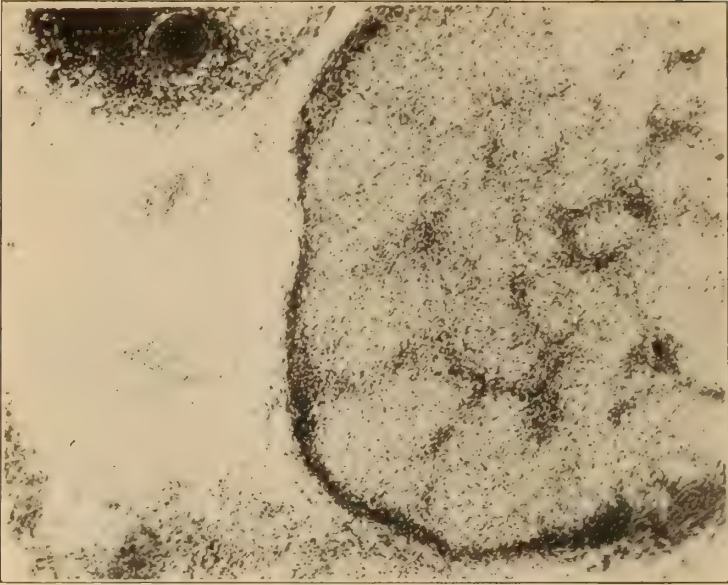


Fig. 3.—Sarcoid. Section from the cheek which shows the lobulated tumor; low power.

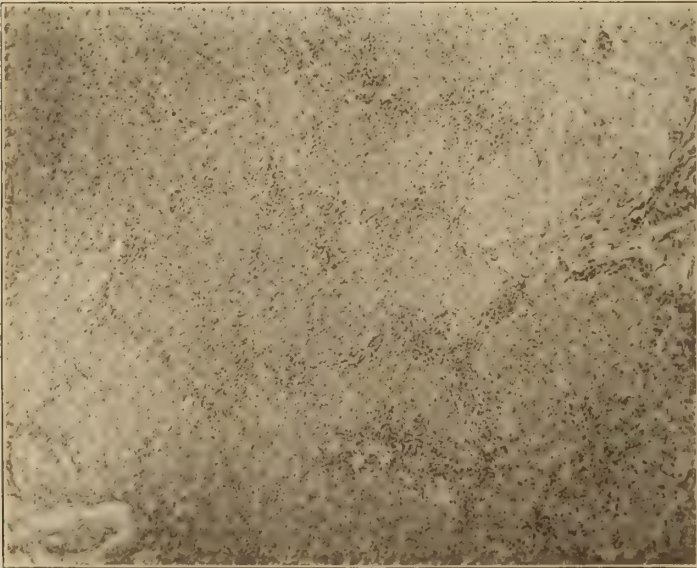


Fig. 4.—Sarcoid. Section from a subcutaneous nodule showing the same lobulated tumor.

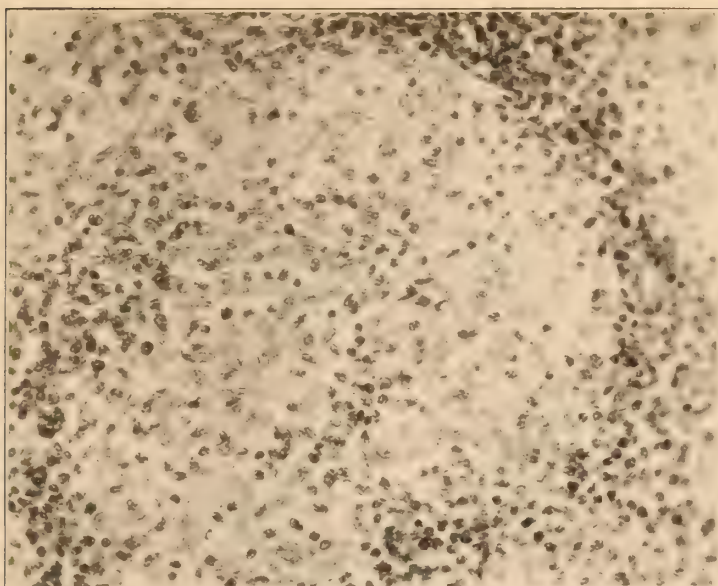


Fig. 5.—Section from a subcutaneous sarcoid. High power.

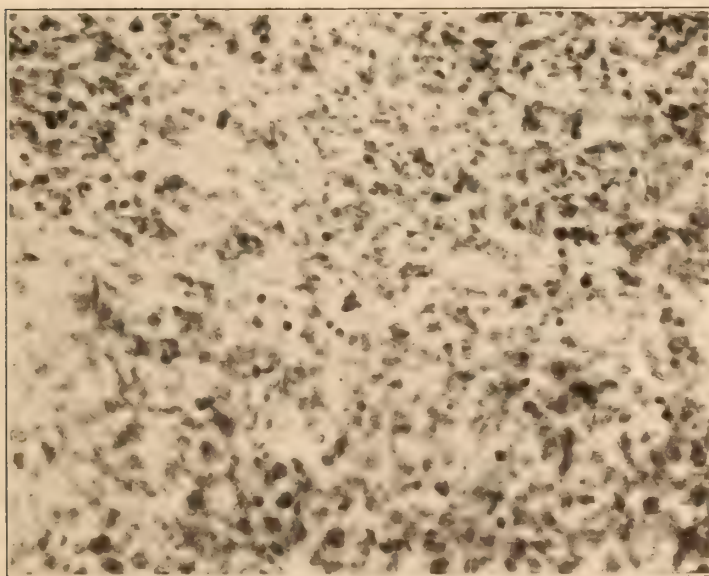


Fig. 6.—Erythema induratum. The section shows the same type of cell as the subcutaneous sarcoid. High power.

neoplastic lymphoderma and can be definitely dropped as having no connection with sarcoid of Boeck. Type 3 is probably erythema induratum. Types 2 and 1 are one and the same and show the variety of ways that sarcoid of Boeck can manifest itself.

In both of our cases of Boeck's sarcoid, we find a subcutaneous sarcoid along with other manifestations. In the case under consideration, the subcutaneous lesions corresponded clinically with the subcutaneous sarcoid of Darier-Roussy. They occurred along with lesions of the diffuse, infiltrating type. We submit that sarcoid of Boeck is a form of tuberculosis of the skin and should be classed as such.

#### TREATMENT

Sarcoid of Boeck has been said to respond to arsenic. In our two cases, this was not the case. Both Fowler's solution and neoarsphenamin (neosalvarsan) were given to the patient whose case we have reported and with no results. Tuberculin was tried and was of no value. Freezing with carbon dioxid snow had been tried previously, but evidently without enough pressure and time allowance. From our observation, we believe that freezing, especially for lesions on the face, offers the best chance of benefit in this disease.

In regard to the treatment of erythema induratum, the roentgen ray has been recommended. We have failed to get any benefit from this procedure, but tried it only in one case. Erythema induratum is a very chronic disease. We have observed two patients who had the affection for eighteen and twenty-five years, respectively. Rest and tuberculin in ascending doses have markedly benefited some patients. Sunlight was used while resting and seemed to help. Many cases of erythema induratum at some time in their course are wrongly diagnosed syphilis and are given arsphenamin (salvarsan). This, at times, will benefit the patient and helps to establish an incorrect diagnosis.

Recently, we have made an autogenous vaccine from erythema induratum lesions, as we found the *Staphylococcus aureus* to be a secondary invader. The use of this vaccine has seemed to us to give a marked benefit. In one case of erythema induratum of the legs and with a papulo-necrotic tuberculid of the arms, the effect was striking.

We are indebted to Dr. G. M. Olson for doing the histologic work in this case.  
625 Syndicate Building.



# MILIARY TUBERCULOSIS OF THE SKIN, LICHEN SCROFULOSORUM AND THE PAPULO-TUBERCULOSIS \*

FRED WISE, M.D.

Instructor in Dermatology and Syphilology, Columbia University, College of Physicians and Surgeons; Chief of Clinic, Department of Dermatology and Syphilology, Vanderbilt Clinic, and Mt. Sinai Hospital Dispensary

NEW YORK

## CLASSIFICATION

The tuberculous diseases of the skin with their polymorphous manifestations may conveniently be grouped under three heads. In the first group are placed the dermatoses occurring as single or isolated lesions, such as lupus vulgaris, tuberculosis verrucosa cutis, scrofuloderma, and ulcerating forms of cutaneous tuberculosis. The second group comprises the exanthematic forms, represented by miliary tuberculosis of the skin, lichen scrofulosorum, the papulo-necrotic tuberculids, erythema induratum and the sarcoids. In the third group are included the dermatoses of which the tuberculous etiology is still uncertain: these are lupus erythematosus, lichen nitidus, certain forms of exfoliating erythrodermias and erythemas and the cutaneous manifestations of lymphadenosis and Hodgkin's disease. Of these three groups I will confine myself to a consideration of the second or exanthematic forms of eruption, namely, miliary tuberculosis, lichen scrofulosorum and the papulo-necrotic tuberculids. The other members of this group, erythema induratum and the sarcoids, have been allotted to another reader of one of the papers comprising the symposium on cutaneous tuberculosis.

## THE PAPULO-NECROTIC TUBERCULIDS

In the discussion of the various types of eruption included under the title of papulo-necrotic tuberculids, the first and most significant question with which we are confronted is this: Are we dealing with the vague concept embodied in the terms, tuberculids, toxituberculids, paratuberculozes, necrotic granuloma, and allied diseases, or have we under consideration what might be termed "genuine" tuberculosis of the skin? To answer this question outright is, in the present state of

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our knowledge, a difficult matter. The discovery of a single, isolated tubercle bacillus in a stained section of one papulo-necrotic lesion of thousands which have undergone the closest scrutiny of the trained microscopist's eye, cannot be regarded as sufficient evidence to warrant the inclusion of an eruption in the group of "genuine" tuberculoses of the skin, any more than an isolated successful guinea-pig inoculation with material obtained from such a lesion, can be rightfully assumed to be proof of the tuberculous etiology of an eruption. Other factors come into play and must be taken into consideration. Among these the most important are those concerned with the natural resistance of the individual toward the tubercle bacillus and its effects on the tissues, the degree of immunity possessed by the patient, the production of antibodies, the number of tubercle bacilli invading the organism, their virulence, and similar factors.

#### PATHOGENESIS

The more recent developments in the science of immunity are pointing the way to a more rational synthetic grouping and correlation of the various so-called tuberculids; it is becoming evident that a broader view should prevail with regard to their pathogenesis. When Darier formulated the term "tuberculid" he had in mind a group of dermatoses which occurred only in tuberculous subjects, without, however, revealing within the lesions, the presence of tubercle bacilli, or even the anatomic changes characteristic of tuberculous processes in the tissues. These eruptions usually made their appearance in crops; the lesions were symmetrical in distribution, more or less disseminated over various regions of the body; they were benign, showing no tendency toward local extension and usually healed spontaneously. They were thought to be provoked by the toxins of the tubercle bacillus, thus explaining the negative findings with regard to tubercle bacilli in the lesions, at the same time suggesting the reason for the relative mildness of the affection and its tendency toward spontaneous healing, as compared with true tuberculosis of the skin. In other words, the tuberculids were regarded in the light of a toxicoderma. In support of this view, it was discovered that the subcutaneous injection of tuberculin would sometimes result in the appearance of lesions closely resembling the papulo-necrotic tuberculids. This toxin theory was strongly favored by Boeck, Hallopeau and Klingmüller, and was soon amplified by another conception which suggested the possibility that the tuberculids were actually provoked by tubercle bacilli, but that the latter occurred as attenuated or even dead organisms (Zollikofer, Jadassohn, Haury, Darier). In rare instances it was found that tubercle bacilli could be demonstrated in some of the lesions, microscopically

or by animal inoculation. The histologic structure of some lesions, at certain stages of evolution, were found on occasion to be, if not typically tuberculous in structure, at least tuberculoid in appearance (Lewandowsky). Finally, transitions of so-called tuberculids into true tuberculous lesions were now and then observed, or the transformation of one form of dermatosis into the other. Furthermore, the fact that the lesions occur in isolated groups, instead of being generally disseminated in various parts of the integument, speaks more for the bacillary than it does for the toxic pathogenesis of the affection. Jadassohn assumed that the tuberculids at one time or another in their evolution, harbor tubercle bacilli, which are destroyed by the natural immunity processes of the individual. That these immunity processes play a very important rôle in the pathogenesis of the papulo-necrotic tuberculids has been recognized by Wolff-Eisner, Zieler, Gougerot, and Lewandowsky.

Today it is assumed that isolated tubercle bacilli are directly productive of the papulo-necrotic tuberculids. The bacilli may gain entrance into the circulation in scant numbers, but in virile form; they ultimately reach the integument, where they are subjected to various antibodies<sup>1</sup> of the organism and there may undergo lysis, thus setting free certain toxins which are instrumental in the provocation of the papulo-necrotic lesions. The bacilli are readily destroyed in the skin, as that organ is known to be unfavorable soil for their growth; the conditions of immunity which permit the existence and multiplication of the bacilli in the internal organs, seem to be inactive in the skin; in the latter organ they readily become a prey to the antibodies, more especially as the bacilli are assumed to be in a state of diminished virulence, and subject to various other factors unfavorable to their growth; among these are the cellular immunity against certain organisms, said to be inherent in the tissues of the skin itself, and the inimical influence of the small lipase content of the skin.

Roemer and Lewandowsky have shown in experiments on guinea-pigs, that antibodies are potent not only against infections with foreign organisms, but against their own virus as well; they believe that the tubercle bacilli provoke so-called reactions of hypersensibility in the skin, in view of the fact that they themselves are destroyed in that organ. Hence the explanation of the difficulty in finding the bacilli in such lesions as the tuberculids. Nevertheless, isolated positive findings have been recorded. The reason of the infrequency of such positive findings may lie in the fact that most of the lesions are examined after they have attained full maturity; the bacilli may by

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1. Antibodies, in this sense, representing a response in the host, to the invading bacillus.

that time become so altered that they cannot be demonstrated as morphologic entities. Lewandowsky is inclined to believe that more successful bacillary findings would result from the examination of lesions in their inception.

According to Wolff-Eisner, the tuberculids are "local reactions wherein Nature has set up a cutaneous reaction, which indicates the reaction of the skin to the products (or derivatives) of tubercle bacilli." Zieler defines them as "reactions of cutaneous hypersusceptibility in tuberculous individuals, provoked by disseminated tubercle bacilli; these reactions as a rule leading to the destruction of metastasizing tubercle bacilli."

#### POSITIVE BACILLARY FINDINGS

The presence of tubercle bacilli in the lesions of papulo-necrotic tuberculids has been demonstrated in some cases, both by animal inoculation and histologic study of sections. Philippon carried out successful inoculation experiments and MacLeod and Ormsby demonstrated a case in which they found giant cells and a typically tuberculous structure, together with two tubercle bacilli. Whitfield found the bacillus in a section stained with Ziehl's stain. Leiner and Spieler, who carried on extensive investigations in the tuberculids of children, found tubercle bacilli almost uniformly in all of their sections, and demonstrated the virulence of the organisms by means of animal inoculations. Bosellini succeeded in demonstrating the bacilli in the lesions of adults. Lier infected guinea-pigs with tuberculosis, with material derived from lesions in every way characteristic of so-called folliclis. Gougerot and Laroche successfully inoculated guinea-pigs, in their experiments, with papulo-necrotic tuberculids, in which the histologic structure showed no evidence of tuberculoid changes.

#### EARLY STUDIES OF THESE DISEASES

Hutchinson and Boeck were the first to call attention to these affections; they considered them to be peculiar forms of lupus erythematosus, probably because some of their cases presented a coincident eruption of the latter disease. Barthélemy believed that there were two distinct clinical types of eruption to which he gave the names acnitis and folliclis. Pollitzer, as well as Dubreuilh and Unna, basing their opinions on the histologic structures which they described, entitled the disease, hydranitis suppurativa, under the impression that the affection began primarily in the sweat glands. It was soon brought to light that the sweat gland involvement was of secondary nature. Darier then suggested the title, tuberculids, as an appropriate designation for the various clinical forms of eruption possessing certain

common characteristics and his publications paved the way to a clearer conception of the entire subject and to a unification of widely diversified views. The pathogenesis and histopathology were at that time investigated by several writers, among them Philippson, Török, Pollitzer, Dubreuilh and Unna. In recent years, many investigators have devoted themselves to a study of the subject, abroad as well as in this country. The important contributions of MacLeod and Ormsby, Whitfield, Bosellini, Leiner and Spieler, Lier, Roemer, Lewandowsky and others, have already been referred to, and more recently Ketron has contributed to the subject.

#### NOMENCLATURE

The various titles which have been applied by many writers to different forms of the disease are too numerous to mention, but the following list includes the more familiar names employed in monographs and text books:

Papulo-Necrotic Tuberculids (Darier).

Tuberculosis Papulo-Necrotica (Lewandowsky).

A. Acnitis (Barthélemy).

Disseminated follicular lupus (T. Fox).

Acne telangiectodes (Kaposi).

Acne agminata (Crocker).

B. Folliclis (Barthélemy).

Lupus erythematosus follicularis (Boeck).

Acrodermatitis pustulosa hiemalis (Crocker).

Dermatitis nodularis necrotica (Hutchinson, Boeck).

C. Hidrosadenitis Destruens Suppurativa (Pollitzer, Dubreuilh).

D. Toxituberculides Papulo-Necrotiques (Hallopeau).

E. Paratuberculoses, Necrotic Granuloma (Johnston).

F. Acne Scrofulosorum (small nodular tuberculid of Darier).

G. Acne Cachecticorum (Hebra).

Acne Necrotica Seu Varioliformis (Bronson).

#### SYMPTOMATOLOGY

In the form of eruption corresponding to the folliclis of Barthélemy, the primary lesions consist, in their early stages, of barleycorn-sized, infiltrated papules, with domed or flattened tops, over which the epidermis appears to be stretched; they are pale red and, on palpation, appear to be situated in the topmost portion of the integument. The color soon changes into a bluish or brownish tint, and the center of the papule assumes a yellowish hue, as though a droplet of pus were shining through the translucent epidermis. If the lesion is pricked with a needle, a drop of serum exudes and a tiny necrotic mass is revealed by pressure between the fingers. If the papule progresses in its evolution, a tiny drop of pus is evacuated, which soon dries up into a brown or dirty-gray crust, occupying the center of the papule. When this is forcibly removed, a small crateriform ulcer remains and some



oozing of blood results. If the evolution of the papule goes on unhindered, the central crust drops off spontaneously leaving a circular, depressed, smooth scar, at first hyperemic, later becoming almost white. A pigmented areola sometimes surrounds these characteristic scars. Involution takes place in four to six weeks' time. In some cases, necrosis is absent, the papules involuting without evidences of breaking down in the center. The lesions may vary in size from a pinhead to a large French pea.

The form of eruption which Barthélemy called *acnitis* is similar in appearance, but the lesions have their origin in the deeper structures of the integument. Here we have a formation of small, indurated, globular nodules, from a barleycorn to a cherry pit in size, situated in the subcutis; they are easily movable and may be rolled under the palpating finger. Their point of origin is between the cutis and the subcutaneous tissue. In the early stages, the overlying skin is normal in color and consistence. As the nodule progresses in its growth toward the surface, the overlying skin becomes red, then bluish in tint; a necrotic spot appears in the center, as it does in the superficial type previously described and the further evolution of the lesion is the same as that of *folliclis*, excepting that in *acnitis* there is a more pronounced and more frequent pus formation; the circular ulcers are also larger and they are of longer duration. In some cases, involution and spontaneous healing take place without necrosis.

The superficial or *folliclis* lesions usually occur in the form of disseminated crops of papules, without special arrangement; in rare instances group formations and annular configurations have been described (R. Bernhardt, Whitfield, von Rusch). Usually the lesions are isolated and appear in areas of predilection, such as the backs of the fingers and hands, the extensor surfaces of the forearms and legs. But they may also occur on the buttocks, the trunk, face, dorsi of the feet, the palms and soles. Barthélemy, in his description of the deeper lesions which he called *acnitis*, considered the face to be the region of predilection for this form of the affection. However, the superficial and the deeper lesions are not infrequently observed to coexist, especially on the forearms and backs of the fingers.

Lewandowsky also calls attention to what he calls the *acneiform tuberculids*, which differ from the *papulo-necrotic* chiefly in that the papules are more flaccid and of softer consistence, and superficial suppuration is more pronounced in them. They may resemble ordinary *acne* or a *pustular syphiloderm*, the papules eventually assuming a *granulomalike* appearance. Their color varies from a light brown to a bluish tint, and their size, from a pinhead to one-half inch in diameter. Ulceration takes place much more readily than in the typical *papulo-*

necrotic lesions of the tuberculids; in early life, ulcerations may appear so acutely, that the preceding stages of evolution barely come under notice, giving the impression that the ulcerations are primary. These ulcers are usually round or oval in outline, possess sharply punched-out edges; the resulting scars are similar to those left by the lesions of folliclis. As to their area of predilection, these papulopustular lesions usually appear on the trunk, scalp, lower portion of the back and the buttocks, and are observed almost exclusively in children. The genitals may also be affected, in both sexes. In the tuberculids of infants, the lesions are usually very small, but they also present a central crust, the removal of which leaves a small, dry depression. In infantile life, these eruptions have great prognostic significance. They almost always appear in infants who are cachectic and present manifest signs of tuberculosis, and who frequently succumb to miliary tuberculosis or tuberculous meningitis. In adult life, the eruption appears often in relatively healthy individuals and is sometimes the first indication of a tuberculous process residing in the body.

As to the course of the disease, the papules usually appear suddenly, in crops, without marked subjective or objective symptoms. Evolution of the individual elements takes place in from one to two months, in the average adult case. Fresh outbreaks may occur before the older lesions have involuted, so that patients frequently present numerous lesions in all stages of development, from the beginning papule to the white, depressed scar. The disease may persist from several months to many years.

#### COEXISTENCE WITH OTHER ERUPTIONS

What constitutes one of the most interesting and suggestive features of the dermatosis is the coexistence of other eruptions, of undoubted or of probable tuberculous origin.

(About a year ago, the writer demonstrated a patient before one of the dermatological societies, who presented the discoid form of lupus erythematosus on the face, scalp and ears, lesions of acnitis on the forehead and typical folliclis lesions on the arms and backs of the hands.)

The coexistence of papulo-necrotic tuberculid on the upper extremities with erythema induratum on the legs, is relatively common, several such instances having been demonstrated in New York in the past three or four years. Varying degrees of pernioles of the hands and feet are frequently seen in association with an eruption of the tuberculids. Urban reported a case in which the disease was associated with an eruption of lichen scrofulosorum, and other writers have reported the coexistence of lupus vulgaris and tuberculosis verrucosa cutis with different varieties of tuberculids.

## TUBERCULIN REACTION

With regard to tuberculin reactions, these lesions do not react so regularly as they do in the cases of lichen scrofulosorum. In Urban's case, for example, an injection of one-half milligram of tuberculin provoked a reaction in the lichen scrofulosorum elements, but showed no change in the tuberculid eruption. It has been suggested that this might be explained by the circulatory disturbances in the papulo-necrotic lesions, causing occlusion of the vessels and preventing access of the tuberculin to the lesions in the skin (Lewandowsky).

In the preceding paragraphs, the writer has devoted considerable time and space in considering the tuberculids, partly with the object to do away with some of the confusion which attends an unusually prolific nomenclature and partly because the disease has many points of relationship to lichen scrofulosorum and miliary tuberculosis of the skin. In the description of the latter diseases it would be superfluous to enter into details of symptomatology, since every modern textbook deals at length with that phase of the subject.

## MILIARY TUBERCULOSIS OF THE SKIN

This eruption is provoked by the dissemination of tubercle bacilli in the blood stream—it is a hematogenous infection. The disease is rare. Among thirty-two infants afflicted with tuberculosis, Tileston found seven presenting miliary cutaneous lesions, a very large proportion, compared with the findings of other writers. Leiner and Spieler also reported an unusually large number of instances, and believed that the eruptions were probably overlooked both by the layman and the pediatrician. However that may be, the disease is certainly uncommon in this country. The eruption usually manifests itself after an attack of scarlatina or measles, in infant life. A few cases in adults have been recorded (Naegeli, Hedinger and Nobl). It may appear in association with generalized miliary tuberculosis, or it may constitute the first prodromal symptom of that disease. From the prognostic standpoint the appearance of the eruption is a serious manifestation, the infants thus affected often succumbing to tuberculous meningitis.

## SYMPTOMS

Briefly, the eruption consists of small punctiform elements, later becoming papular or vesicular, sometimes resulting in small ulcers or furunclelike infiltrations. Leiner and Spieler lay especial stress on the symptom of central necrosis, almost always present, clinically or microscopically. Sometimes the lesions are hemorrhagic, are scattered over the trunk and extremities, at times also on the face; in general, their appearance is purpuric. The lesions are of pinhead to barley-

corn-size, slightly elevated, with flat tops, bluish red to brown in color, with a yellowish tint in the center, which may present a small umbilication or dell, or a tiny crust or scale. The lesions are often closely set together, sometimes grouped into plaques. They involute within a few days, leaving centrally depressed scars and pigmented spots. Large pustular lesions and ulcerations have also been described as forming part of the eruption, and a case presenting rupioid formations has been recorded by Bosellini.

#### LICHEN SCROFULOSORUM

Lichen scrofulosorum affects chiefly children before puberty, but numerous cases are reported occurring in adult life. The older patients almost invariably present evidences of active tuberculous processes, usually of benign character, such as chronic glandular and bone affections; advanced pulmonary tuberculosis is rare. In some cases, no evidence of tuberculous disease is manifested. The eruption often follows an attack of measles or scarlatina. It may persist for months without causing discomfort and may scarcely attract the patient's notice. The lesions may disappear spontaneously without leaving any traces on the skin, or small macules, light brown in color, may remain after their involution; in some instances, small round punched-out scars are left.

#### SYMPTOMS

The eruption consists of punctiform to barleycorn-sized papules, the color of which may be that of the normal skin, or light yellowish brown, or red; these papules are at times glistening, at times capped by a small scale. They are arranged in circular and oval groups which may be several centimeters in diameter, or they may form almost perfect circles. In their initial stages, the papules are seen to correspond to the sites of the follicular orifices. The lesions occur mainly on the trunk, less often on the extremities and the face. Some patients present large, garlandlike, serpiginous formations, and the skin between the lesions may become implicated, thus forming plaquelike infiltrations in the integument. The evolution of the eruption is a slow one, very little change taking place in the lesions after they had attained their full development, except that the desquamation may increase and that small pustules and crusts may appear at the summits of the papules.

Subjectively, there may be periodic attacks of itching, which usually is of mild grade. The course is chronic, the individual elements often persisting for months without undergoing spontaneous involution.



## BACILLARY FINDINGS

Tubercle bacilli have rarely been found in cut sections of this disease. The positive findings are those recorded by Jacobi, Pellizari, Wolff, Darier, Bettmann and Lewandowsky, and most of these specimens were taken from pustular lesions. Positive animal inoculations were obtained by Haushalter, Jacobi, Wolff, Pellizari, Colombini and Whitfield. The absence of tubercle bacilli in these sections is explained by the immunity reaction causing a rapid destruction of the tubercle bacilli and a consequent inability to demonstrate them in the sections of tissue. In other respects, the tuberculous nature of the disease is readily demonstrable. Jadassohn has shown that a tuberculin injection will bring out an eruption which apparently has entirely vanished. In patients who have a tuberculous adenitis together with an eruption of lichen scrofulosorum, extirpation of the diseased glands has been shown to cause a prompt involution of the cutaneous affection. Nearly all of the cases react positively to tuberculin injections and to the Moro inunction test. There is little doubt, therefore, that the disease is a hematogenous tuberculosis of the skin — a “genuine” tuberculosis in the same sense as lupus vulgaris.

## HISTOPATHOLOGY

*The Papulo-Necrotic Tuberculids.* — According to Lewandowsky, the simplest histologic change in the papulo-necrotic tuberculids — as is the case in all other hematogenous tuberculosis of the skin — consists of a circumscribed infiltrate of tuberculoid structure in the cutis. Very often the microscopic appearances present little or no evidences of a tuberculous structure, the usual findings being those corresponding to an ordinary inflammatory reaction in the skin. But those investigators who have had the opportunity to examine a large number of sections, obtained from various types of lesions, have on numerous occasions demonstrated in the cutis, many small areas containing large giant cells of the Langhans type, together with collections of epithelioid cells, so suggestive of tuberculosis. The most characteristic feature, however, is the necrosis. Small areas of necrosis may occur in any portion of the cutis, the surrounding tissue exhibiting a narrow band of epithelioid cells and lymphocytes. Such areas of necrosis are often observed in the upper portion of the corium, just beneath the epithelium, the latter then taking part in the destructive process; the nuclei of the deeper epithelial cells take the stain poorly; over the area of necrosis there may remain only one or two layers of flattened, parakeratotic cells; or this portion of the epithelium may present a small, flattened vesicle, lying between the horny layer and the rete, and filled with leukocytes and cell detritus. Sometimes this vesicle

will communicate with the subepidermal infiltrate, in which case an appearance similar to that of a furuncle is seen, more especially in the acneiform tuberculids. The little abscess mass is composed of polynuclear leukocytes and cell detritus, but at its periphery there are numerous epithelioid cells and sometimes also giant cells.

On either side of the necrotic area, the epithelium shows evidences of proliferation, with edema, hyperkeratosis and parakeratosis of the epidermis.

The necrosis may appear in any portion of the corium, down to the subcutis and may be accompanied by lymphocytic, tuberculoid infiltrates. The histologic structure of the superficial "folliclis" and the deeper "acnitis" is practically the same; in acnitis the necroses are usually more widespread and are surrounded by a broad band of lymphocytes and epithelioid cells, with a few isolated giant cells. Within the infiltrates the elastic fibers and normal collagenous bundles are wanting. The infiltrates are located mainly about the deeper vessels in the region of the sweat glands, so that the latter are also implicated in the process, finally undergoing necrosis; this involvement of the sweat apparatus is what induced the older investigators (such as Pollitzer and others) to describe the process as though it began in these appendages of the skin. Further study has shown that these changes in the sweat glands are of secondary character.

The changes in the blood vessels constitute the determining factors in the pathogenesis of the tuberculids. Primarily, the deeper veins of the cutis are involved in the process, which begins as an endophlebitis with proliferation of the intima and thrombus formation, after which the necrosis appears. At first, there is a marked increase in the endothelial cells, until complete occlusion of the lumina takes place. The media and adventitia are thickened and studded with dense infiltrates, the latter forming perivascular mantles about the large and small vessels, following them for a considerable distance. Changes in the arteries also have been described (A. Alexander, Kren, Werther). These consist of an endarteritis going on to complete obliteration, together with mesoarteritis and periarteritis. Werther believes that the whole process is due to an occlusion of the arteries, with its resultant structural changes. Jadassohn and Lewandowsky have shown that both the veins and the arteries are involved in the process, as they are in other hematogenous dermatoses, but more so in the tuberculids than in other affections of the skin. According to most of the investigators, the occurrence of the necroses is directly dependent on the widespread endarteritis and endophlebitis affecting the vessels in the cutis.

It is possible, as Barthélemy suggested, that subcutaneous lesions like those of acnitis may exist, provoked by agencies other than the bacillus of tuberculosis; these lesions manifest themselves as small, round, subcutaneous nodules, which, appearing without a coincident eruption of superficial papulo-necrotic lesions, are difficult to identify, clinically. However that may be, such subcutaneous nodules are most frequently encountered in association with the superficial papulo-necrotic lesions; they may be interpreted as an expression of an embolic tuberculous process occurring in the deeper layers of the cutis.

*Miliary Tuberculosis of the Skin.*—Corresponding to the lesions on the surface of the skin, we find here circumscribed diseased areas, located chiefly in the upper portion of the cutis. These areas consist of infiltrations some of which present a tuberclelike structure, but more often possess no specific anatomic characteristics. In the latter case, the infiltrations are composed of lymphocytes and plasma cells or granulation tissue. Necroses usually are found in the central portion of the infiltrate. Leiner and Spieler found small necrotic areas in the cutis, sometimes also in the epithelium, the surrounding tissue exhibiting very little, if any, reaction. In the center of these areas they demonstrated the presence of vascular thrombi, many of which contained an abundance of tubercle bacilli. They conclude from this, that the lesions are caused by a complete obstruction of the smaller arterial vessels, resulting from emboli which contain large masses of bacilli; the interference with the circulation follows so suddenly, that the tissues succumb and are destroyed through lack of nutrition, before they have time to react with specific cell proliferation. The process is therefore apparently a mechanical one and occurs as the result of a complete lack of reaction of the organism against the tubercle bacillus, in the most severe form of the affection. In a less severe form, there is a reaction manifested by a collection of lymphocytes arrayed against numerous tubercle bacilli, without, however, causing their destruction and without the formation of tissue possessing a tuberculoid structure. Finally, in the least severe form, a certain degree of antibody formation is capable of provoking an amount of specific reaction sufficient to destroy the bacilli and eventually permit spontaneous healing of the skin.

*Lichen Scrofulosorum.*—According to the investigations of Lewandowsky and of Jadassohn, a typical, fully developed lesion resembles a miniature lupus nodule. Ordinary inflammatory changes are found more frequently than are the tuberculoid structures, but persistent search is usually rewarded by the finding of tuberculous tissue changes in some of the lesions. Lesseliers found this to be the case in sixteen out of seventeen specimens which he examined at the Bern clinic, and



his investigations were confirmed by Jadassohn. In most sections, both the ordinary inflammatory infiltrates and the tuberculous nodule formations are seen together. There may be transitions from one to the other, represented on one hand by a simple perivascular collection of round cells, on the other hand, by a tuberculous nodule containing only a small number of lymphocytes. They constitute merely different stages in the same disease process.

In sections showing the typical changes, we find small, noncaseated nodules, occurring as isolated formations, in contradistinction to the groups seen in lupus; the center is composed of giant cells of the Langhans type, together with epithelioid cells, while the periphery consists of lymphocytes. The latter may, however, be entirely wanting in the older lesions, so that the nodule is sharply defined against the surrounding normal tissue, and separated from it by a narrow band of connective tissue cells. In these older nodules, we find, beside the epithelioid cells, numerous connective tissue cells with elongated and spindle-shaped nuclei; this represents a retrogressive change in the infiltrate, in which only small areas of caseation are found. The irregularity of the cellular arrangement usually tends to disguise the typical nodule formation, so that often the nodule consists of only a small group of epithelioid cells with a few poorly developed giant cells. But even in these poorly developed nodules, the normal collagenous and elastic tissue ground work is lacking. The ordinary inflammatory formations consist of small round lymphocytes. Plasma cells are rare.

The infiltrates are usually found to be associated with the hair follicles, but sometimes they are seen to be independent of any of the appendages of the skin. They may be grouped about the small vessels in the cutis, more especially in the upper portion, beneath the epidermis. Sometimes they consist of a single giant cell and a few epithelioid cells. The perifollicular localization of the infiltrates indicates an area of predilection, due to the fact that the blood supply is more abundant about the follicles and the vessels here are more apt to contain emboli with tubercle bacilli. If this is the case, we are dealing neither with a supposed elimination of toxins through the hair follicles, nor with a foreign body reaction about the primarily diseased hair papillae.

The tuberculous infiltrate situated near the hair follicle may present a variety of shapes and dimensions. Sometimes it is sharply defined against the follicle and the surrounding connective tissue; at other times, the lymphocytic infiltration at the periphery attaches itself to a small vessel, following it for a short distance. Within the infiltrate itself, the vessels are usually absent, although some observers have found thickened and infiltrated vessels in the midst of the nodule. In some specimens, the follicle is intact and separated from the infiltrate



by a narrow zone of normal connective tissue. The follicular epithelium is usually altered, ranging from a mild grade of intercellular edema to complete destruction of the follicular wall. The epithelium is frequently studded with lymphocytic cells. There may be a parakeratosis of the follicular mouth, extending deeply into the follicle. These changes in the epithelium of the follicles result secondarily from the perifollicular inflammation; similar changes are seen in the epithelium at a distance from the follicular orifices, in places where the infiltrates are located just below the rete; parakeratosis is almost always seen in these areas.

#### CONCLUSIONS

When we come to analyze the different factors which play a part in the pathogenesis of these three tuberculous affections of the skin, we are forced to the conclusion that the toxic theory—in the sense of a toxicoderma—is, in the light of modern knowledge of immunity processes, no longer tenable. These dermatoses have ceased to be “tuberculids” and have emerged from the obscurity which that vague term implies, to take their places in the category of “tubercloses.” Papulo-necrotic tuberculid has become *tuberculosis papulo-necrotica*; lichen scrofulosorum has become *tuberculosis lichenoides*. If we were to concede that the term “tuberculid” is strictly analogous to the term “syphilid,” any reference to a change in nomenclature would be uncalled for; nobody doubts that a syphilid is still a syphilid, whether or not the microscope reveals the *Spirocheta pallida* in its substance; the same is true of a lepid. In accordance with modern conceptions, a lesion may still be the result of a tuberculous process in the skin, whether or not the bacillus of tuberculosis can be demonstrated in it. The characteristic histologic tuberculous nodule is evoked, not by the presence and multiplication of the tubercle bacilli *in situ*, but rather by the destruction of the bacilli under the influence of antibodies; for it has been shown (Lewandowsky) that when the bacilli are growing and multiplying in the tissues, unhindered by antibody substances in the organism, the result is a tissue reaction in the form of nonspecific, ordinary inflammatory changes; under such circumstances, too little time has elapsed to permit of the production of sufficient antibodies to hinder the action of the bacilli. But when a sufficient amount of antibody substance is available, the blood-borne bacilli are gradually destroyed on their entrance into the skin, and only then are they capable of giving rise to the so-called tuberculoid tissue changes, or tuberculous nodules.

The variations in the form and type of eruptions provoked by the tubercle bacillus seem to depend, therefore, on three chief factors:

(1) The individual disposition of the patient; (2) the number of bacilli circulating in the blood stream, and (3) the degree of immunity reaction residing in the affected organism.

In the preparation of this paper, the writer has consulted the recent editions of Stelwagon, Ormsby, Sutton and Hartzell, as well as the writings of Riecke and Jadassohn, in Mraček's Handbook of Skin Diseases. Information relating to the most recent work on cutaneous tuberculosis was obtained from Lewandowsky's excellent monograph (*Die Tuberkulose der Haut*; in *Enzyklopaedie der Klinischen Medizin*, J. Springer, Berlin, 1916), in which a complete bibliography is included, and from Zieler's article on cutaneous tuberculosis in *Jesioneck's Haut- und Geschlechtskrankheiten*, 1914.

24 West Fifty-Ninth Street.

### ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. POLLITZER, WISE, SCHEER AND LANE, AND SCHWEITZER  
AND MICHELSON

DR. JOSEPH ZEISLER, Chicago: When one can remember, as I do, the status of this subject during my younger days in dermatology and can look back to the International Congress at Copenhagen in 1884, where there was a bitter fight concerning the recognition even of lupus vulgaris as a form of tuberculosis of the skin, one must realize that immense strides have been made in our knowledge of tuberculosis of the skin. I will refer to two items which have occurred to me. One is the rôle of sarcoid, a case of which I reported to this Society in San Francisco in 1915, and to which Dr. Sweitzer was good enough to refer. I have since seen a similar case and have been impressed by its remarkable benignity. To connect these cases with tuberculosis clinically is a rather forcible construction of things, and yet under the overwhelming evidence we have from many sources there is no reason to doubt that sarcoid may be related to tuberculosis. Radium, roentgen rays, freezing, all sorts of local applications seem to make little impression. The first case I reported is at present entirely cured, and I believe chiefly from constitutional treatment by the continued use of arsenic.

Another item which merits a few remarks is lupus erythematosus. We are still uncertain about its essential nature and it is still clinically and therapeutically full of surprises for us. Patients will get well in spite of practically foolish treatment and patients whom we are treating with the best known methods will go from bad to worse to our utter humiliation. Perhaps, there is no person here who has not experienced this. A patient passes from our hands, perhaps into inferior hands, and then some kind of medicine given internally will cure the condition within a short time. I have had such an experience of late in a case of lupus erythematosus which had been treated with all sorts of measures, among them freezing, and obtained only temporary improvement. Recently this patient came to my office entirely cured; by what? A certain pathologist had made a vaccine—I do not know where he obtained it, whether from some local lesion, or from the blood or saliva—at any rate I learned that she was cured by a few injections of that vaccine. In the face of such facts we simply must bow down and acknowledge that our means are frequently feeble and inefficient, and there is this one great lesson which we must draw from it—not to insist too much on local measures, but to try to get at the root of the evil and use constitutional measures. And further, not to rely too much on hair-splitting diagnoses and the coining of long titles, but to insist on the recognition of the real, deep-seated cause.

DR. RICHARD L. SUTTON, Kansas City, Mo.: Lupus erythematosus of the chronic type may be due to any one of several causes. At the San Francisco meeting, Markley of Denver, told us that lupus erythematosus was extremely rare in Colorado. If the disorder is due to tuberculosis, it certainly would seem that lupus erythematosus ought to be a common affection in that state.

In the past two years, I have been paying particular attention to focal infections of the teeth and tonsils as causative factors in this disorder, and we have found that a nonspecific vaccine often greatly benefits the condition of the patient. The material probably acts as a foreign proteid and must be injected in amounts sufficient to give rise to considerable reaction. We have also secured beneficial results in the treatment of erythema induratum with this agent.

With reference to the sarcoid group: I think we may safely classify these growths according to their relationship to tuberculosis—the multiple benign sarcoid of Boeck, and sarcoid of the Spiegler-Fendt type, nontuberculous, fairly characteristic histologically, and both types responsive to long-continued arsenical medication; subcutaneous sarcoid of Darier-Roussy, erythema-induratum-like sarcoid of the extremities and tuberculosis of the hypoderm of Wende, all tuberculous in origin and nonresponsive to arsenical medication. In the treatment of the first group I have found arsphenamin and neoarsphenamin of little value. It is much safer to depend on liquor potassii arsenitis or on sodium cacodylate, injected intramuscularly or subcutaneously and continued over long periods of time.

DR. JOHN A. FORDYCE, New York: I would like to emphasize the close clinical resemblance between the various tuberculous processes in the skin and syphilitic conditions of this organ. In certain cases, it is impossible to make a differential diagnosis without the aid of serologic tests. In Bazin's disease the clinical picture is almost identical in certain cases with skin gummas, and some types of disseminated tuberculid present a picture almost like that of papulo-necrotic syphilid. I have had two very extensive cases of tuberculous ulceration which began on the glans penis and spread over the lower abdomen, inner sides of the thigh and the peri-anal region. These cases were both clinically diagnosed as syphilis, but this disease was ruled out by the negative Wassermann reactions and by the failure of the lesions in both cases to respond to antisymphilitic treatment.

DR. JOHN H. STOKES, Rochester, Minn.: Since the organization of my service at Rochester I have seen about thirty cases of the papulo-necrotic type of cutaneous tuberculosis. In seventeen or eighteen of these cases we used intensive treatment with arsphenamin (salvarsan) with excellent effect. This form of treatment, as you know, was very favorably reported by several French observers, including Ravaut, just before the outbreak of the war. Employment of arsphenamin (salvarsan) in other forms of tuberculosis of the skin, however, has not yielded such satisfactory results. Two cases of the Boeck type of sarcoid have also failed to respond. One of these cases was under treatment for syphilis and on being sent home in an interval between arsphenamin (salvarsan) courses, took Fowler's solution by mouth with an immediate and striking involution of the sarcoid which had remained uninfluenced by arsphenamin (salvarsan). Not all of the papulo-necrotic tuberculids appear to respond to this form of treatment. Constitutional measures, roentgen ray to the glands, liberal diet and outdoor régime are essential in successful management. I was interested to note the omission in the papers presented of the acute onset of cutaneous tuberculosis in the form of an eruption of the type of erythema nodosum, occasionally with purpura. This type of erythema nodosum has recently attracted the attention of the French writers who believe that every case of erythema nodosum should be investigated thoroughly for a focus of early tuberculosis. This is particularly true if the erythema is of a more indolent type than that usually associated with streptococcal infection. Our entire series of tuberculids showed 60 per cent. to have absolutely demonstrable tuberculosis. It was a curious fact that the milder tuberculids were associated in a general way with the more severe type of pyogenic tonsillar involvement. Possibly the double condition is responsible for the allergic manifestations which have been alluded to as a possible explanation for the local reaction represented by the necrotic papule.



DR. FREDERICK G. HARRIS, Chicago: It is necessary for us to define what we mean by the term tuberculosis of the skin. I recall Zieler's work on this subject. He excised and examined the areas of skin showing a positive von Pirquet reaction. He found an inflammatory area showing all the histologic findings of tuberculosis, such as giant and epithelioid cells, areas of caseation and extension of the inflammation along the lymphatics and yet not due to the presence of tubercle bacilli but merely to the toxin of that bacillus. I am willing to admit that the so-called tuberculid is due either to fragments of dead bacilli or to live bacilli of greatly lowered virulence which soon succumb, the course of the lesion thus produced being self-limited. If the organism was virulent and viable, one would expect that the disease would extend and last over a longer period of time. Possibly some of the lesions are of this kind and form the true bacillary type of tuberculid. Tissue reaction, I believe, plays a large part in this question, and in this connection I am reminded of a case of Sternberg's general tuberculo-lymph adenopathy simulating Hodgkin's disease. The patient suddenly developed a zoniform eruption of papulo-necrotic lesions; previously he had had innumerable scattered lesions but here was a zosterlike distribution which most of the members of the Chicago Dermatological Society thought was a zoster gangrenosus. A biopsy was made and the lesion showed the histology of tuberculosis.

DR. A. RAVOGLI, Cincinnati: Not long ago a physician brought a patient to my office. She had suffered for two years with an eruption of the skin which was considered to be of a syphilitic nature. She had received injections of arsphenamin (salvarsan), very strong mercurial treatment and iodid of potassium without result. The Wassermann test was negative and her husband, too, showed a negative Wassermann reaction. When I saw her there was no doubt that it was a case of papulo-necrotic tuberculid. Some years ago I reported a case of a necrotic tuberculid in a colored man, which had to do with his general condition. This colored man died of tuberculosis. I do not know the condition of the lungs in the lady mentioned, but she did not look tubercular; her lungs may have been free. I advised her to stop all antisymphilitic treatment and take cod liver oil internally and externally. She was much better a few days later and the ulcers resulting from the sloughing of the necrotic papules healed.

The distinction between tuberculosis of the skin and tuberculid is very useful. The tuberculid like leprid is a general manifestation of the tuberculous process concealed in the internal organs, which either by the toxins or by the tubercle bacilli has invaded the skin through the circulation. The tuberculosis of the skin is a localized disease and usually of a slow type, as the skin affords a poor ground for the proliferation of the tubercle bacilli. In lupus vulgaris the disease exists for ten or twelve years with very little destruction of the skin, but when the tubercle bacillus goes down into the subcutaneous tissues then the lymphatic glands are affected, and there is the destructive process of lupus which causes those horrible deformities. In lupus erythematosus there is a tendency to discourage the idea that the disease is related to tuberculosis; however, this is against my experience and my studies. Lupus erythematosus has to be distinguished in its forms as lupus erythematosus discoideus or circumscriptus and diffusus. Lupus erythematosus circumscriptus is a superficial tuberculosis, while lupus erythematosus diffusus is a tuberculid. In many instances lupus erythematosus discoideus is so like lupus vulgaris as to make the diagnosis difficult. A paper in the *American Journal of Medical Sciences* stated that a patient with lupus erythematosus diffusus who died of tuberculosis represented nothing other than an accident. Many of my patients with lupus erythematosus diffusus have died of tuberculosis of the lungs, and with miliary tuberculosis. Tuberculosis of the lungs appeared in nearly all the severe types of lupus erythematosus diffusus. A few years ago I reported a case of a patient with lupus erythematosus diffusus treated with tuberculin, who died of tubercular sepsis. In this case



the spots were changed into tubercular ulcers. I would maintain that lupus erythematosus discoideus is a tuberculosis of the skin in which the tubercle bacilli or their toxic products affect the upper layer of the skin, while in lupus vulgaris the tubercle bacilli affect the deeper layers of the corium and produce those little papules or nodules which, after awhile, undergo all the changes which are proper to the tubercular tissues.

In the treatment of lupus erythematosus discoides Dr. Hoffmann's system is used a great deal—quinin internally and tincture of iodine externally. In some cases I have obtained good results. As Dr. Zeisler said, we sometimes see good results from a very little therapeutics.

DR. WALTER J. HEIMANN, New York: The great trouble as regards tuberculosis of the skin is that it suffers from being visible to us. We have created many conditions which we consider entities but which are not. The skin is subject to the direct action of various organisms and the direct action of their toxins, and this holds true in tuberculosis. The manifestations would fall into two groups, those conditions which we already accept as tuberculosis, and the other termed tuberculids, which is a nonsensical term. As was brought out by the paper of Drs. Lane and Scheer this has been degenerated into two subsequent groups: (1) those in which we found the bacilli—which removes them from the group, and (2) those in which we have not. In the second series we are dealing with bacillary tuberculosis, or with toxic tuberculosis, whatever that may mean, or with a third group in which no tuberculosis is present. I am certain that if we are dealing with tuberculosis we will find tubercle bacilli if we look long enough. To talk of nontubercular tuberculosis of the lung is an absurdity, and to talk of nontubercular tuberculosis of the skin is just as absurd. It seems to me we will either have to prove that these things are tubercular or admit that they are not, and not continue a designation that is not only utterly meaningless but absurd.

DR. EVERETT S. LAIN, Oklahoma City: I have been inclined for the past few years to the opinion of Dr. Heimann, namely, that lupus erythematosus was not tuberculosis and had no relation to tuberculosis, other than perhaps a reaction to some foci of infection of which tuberculosis might be one factor. I have not studied this from a laboratory standpoint, but have endeavored to observe closely the few cases which have come under my work. Searching diligently into the history, or having the patient gone over carefully, I have in the majority of cases arrived at the conclusion that this disease is a reaction from a focus, or a manifestation from some toxin. I doubt if it is of the same toxin in every case. I agree with Dr. Zeisler that it is probably due to various forms. This conclusion has been corroborated by the treatment which has been described this morning, namely, mixed vaccines. They will sometimes produce remarkable results. In one instance in my experience, the removal of the tonsils in a child gave perfect results. It is rather rare to find this disease in a child, but in this case the typical lesion had been present on the face for three years. After removal of the infected tonsils the disease began to disappear and for three years has shown no recurrence. In numerous other cases which I treated and which have left me, I have since learned that the disease has been cleared by some very insignificant treatment, such as mentioned by others. I have observed that, since the issuance of much propaganda by dentists concerning focal infections, these people have been more careful to have these conditions looked after, and I attribute their improvement or cure largely to this education. As time goes on we shall certainly come to the conclusion that it is due to a focus of infection, and the exact or specific organism shall yet be determined.

DR. ERNEST D. CHIPMAN, San Francisco: We should not be too sure in putting down many things which we must consider reactions of the skin to any one definite cause. A number of years ago Dr. Gilchrist obtained splendid results from the use of vaccines from sources which we would think had no relation to the disease concerned whatsoever. Since then it has occurred to me

that the good results were obtained either by the use of nonspecific vaccine, or foreign protein, or that the vaccine contained the organisms which were indirectly responsible for the lesions—the organisms being situated in some remote focus of infection. Lupus erythematosus, as well as other members of this group, may very well be due to a toxemia which may result not only from tubercle bacilli, but from various other organisms. As in some conditions of the eye, like glaucoma—which many of the ophthalmologists believe to be due to a syphilitic or any other infection, so with many skin lesions we must believe they are reactions from a variety of sources.

DR. M. SCHOLTZ, Cincinnati: Since various forms of skin tuberculosis are quite frequently difficult of recognition, we might utilize the therapeutic test as a means of retrospective diagnosis. The therapeutic test as a diagnostic means in syphilis is a well established procedure. While the therapeutics of skin tuberculosis at the present time is not as specific as that of syphilis, the systematization and standardization of treatment in cases clinically recognized or suspected to be skin tuberculosis may prove of assistance as a confirmatory retrospective evidence.

DR. HENRY E. MICHELSON, Minneapolis: It may be of interest to state that with approximately 3,000 cases of pulmonary, glandular and osseous tuberculosis, in the various sanatoria in Minnesota, there are only two cases showing cutaneous manifestations.

DR. FRED WISE, New York: The points that refer to the bacillary and nonbacillary factors in the etiology of cutaneous tuberculosis have been so well brought out that I will not dwell on them. There is no question but that today we are not justified in making any definite claims regarding the bacillary origin of many of these affections. The relationship between erythema nodosum and tuberculosis which Dr. Stokes mentioned, has been pointed out by the German authors, and several cases have been demonstrated as having a tuberculous etiology. Cases of erythema nodosum are so closely associated in some instances with the erythema induratum of Bazin that the striking relation is manifest to the average man who runs a large clinic. We must admit, with Dr. Harris, that we are not justified in saying that the papulo-necrotic tuberculids are all of tuberculous origin. I base my observations on a number of years of experience and think we will be able to show that the papulo-necrotic tuberculids probably are all of tuberculous origin, but it may take ten years to demonstrate that. If Dr. Harris will admit that the erythema induratum of Bazin is a tuberculous disease and that it frequently exists with the papulo-necrotic tuberculids, the fact that numerous instances are recorded in which these diseases occur in the same patient and that, for example, a papulo-necrotic tuberculid will often disappear after the excision of tuberculous glands, he will admit that these arguments are too strong to ignore. That shows a fairly close relationship. Why tubercle bacilli are not found in all tuberculids is probably because of the action of the immunity reaction and the tissue reaction of the skin against tubercle bacilli.

Another point which interested me was Dr. Sweitzer's discussion of the futile efforts to cure sarcoid. At the Vanderbilt Clinic this has not been so discouraging. I was a little surprised at the poor results obtained with the roentgen rays in erythema induratum, in which affection my results with roentgen rays have always been good.

With regard to the cure of sarcoid, I agree that the cases differ very greatly in their susceptibility to treatment. Carbon dioxid snow has been the only remedy in several cases. One patient had received sodium cacodylate and various other remedies without any effect until carbon dioxid snow was used. Other cases of sarcoid of Boeck have been treated successfully with Fowler's solution. George H. Fox has presented a case in which Dr. Heimann removed a piece of skin and demonstrated the presence of the sarcoid of Boeck; this man's skin is getting well under mixed treatment. The cases of sarcoid vary in regard to their cure as much as lupus erythematosus. In one case, the

wife of a dentist, who is being treated for lupus erythematosus, nothing will clear up the lesions except a trip to the seashore. If she had taken vaccine treatment at the seashore the vaccine would have been credited with the good results, but as it is, the change of air and environment affected the lesions beneficially. The treatment of the diseases under consideration which are probably due to a tuberculous toxin or to the tubercle bacilli themselves vary so much that no one method can be laid down as being either specific or favorable.

DR. JOHN E. LANE, New Haven, Conn.: Dr. Stokes mentioned Ravaut's treatment of some of the tuberculids with arsphenamin (salvarsan). It was my privilege to see his results in several cases of lupus erythematosus. Some showed very prompt improvement after treatment with arsphenamin (salvarsan), but it was my impression that this was simply a coincidence. They probably belonged to the class of cases that improve under any treatment or sometimes without any treatment. I think that we must all agree with Dr. Heimann that if we can prove these diseases to be tuberculous we can then call them tuberculosis; or we may use the term tuberculid as referring to a tuberculous lesion as we now use syphilid in referring to a syphilitic lesion. However, since the term tuberculid has been used for so long, we may continue to use it until we determine the etiology of these lesions; it is a name that will express absolute ignorance as well as any other, and to change it now for another would only add to the present confusion in terminology. The reason we have been able to demonstrate so easily the fact that the syphilids are manifestations of syphilis is because they respond so well to specific treatment. This is not the case with tuberculids, which are in most cases refractory to all sorts of treatment—then too, there is no specific treatment for tuberculosis. Perhaps, the proof that tuberculids are or are not tuberculous will be found when some of us dermatologists have the patience to search for months for one tubercle bacillus in the lesions as Dr. Warthin has done for the spirochetes in the syphilitic lesions of internal organs.



## Correspondence

### MATCH-BOX DERMATITIS

Boston, Mass., Nov. 27, 1918.

*To the Editor:*—Apropos of the interesting letter from Dr. George Henry Fox in the November issue of THE JOURNAL on "Match Box Dermatitis," may I relate my experiences with dermatitis venenata of this newly revealed etiology.

CASE 1.—March 24, 1904, a man, aged 36, a heavy smoker and a rather heavy drinker, consulted me for a recurrent attack of what I diagnosticated at the time lymphangitis. On the anterior outer aspect of the right thigh there was a parallelogram 4 by 6 inches, of deep, lumpy, blue-red, rather angry congestion which itched a good deal. Two days later, after an anti-erysipelas treatment, the size and the infiltration of the affected area had markedly diminished save in one spot where marked infiltration persisted. This obstinate nodule, despite continued and varied treatment, was still present on April 25.

May 12, a recrudescence *in situ* was noted and the patient was sent to a surgeon for excision of this intractable swelling. The microscopic examination revealed many lymphocytes in the lymph spaces of the middle and deep corium.

The patient consulted me again, May 28, 1914, and reported a recurrence of the same inflammatory pruritic condition in the exact location of the previous attack. This outbreak had been present for the previous four months and had not yielded to the persistent use of ice bags—a therapeutic method which out of many the man considered the most successful. The eruption was sharply localized, and consisted of many elevated, pink-red, dime-sized, flat-topped infiltrations. Following the internal administration of calcium lactate and the external application of white wash and ichthyol wash, the eruption was wholly gone in two days. June 9, another attack developed but would not yield to the previous successful treatment and ice bags were again resorted to.

Oct. 17, 1916, the man appeared for a third time with the same type of inflammation in the same site, and on this occasion there was a large plaque, 4 by 8 inches.

Since then I have not seen the victim of this peculiar affection. Despite repeated and inquisitorial questionings I never determined the cause of this mysterious malady, but on reading last summer an abstract of Rasch's paper, my mind immediately reverted to this previously inexplicable inflammation and I believed that my patient was a victim of "match box dermatitis," basing my assumption on the repeated attacks of the disease always in the same site and on the fact that the man was a heavy smoker.

CASE 2.—Dec. 4, 1914, a man, aged 52, an incessant consumer of cigarettes and a rather consistent drinker, consulted me for a dermatitis of a month's duration. On the anterior right thigh was a sharply circumscribed, oval, infiltrated, pink-redness which itched "like thunder." Under aspirin and a 50 per cent. aqueous solution of ichthyol the dermatitis flattened down and blanched and the surface dried and scaled. January 3, it was noted that the infiltration and depth of color were distinctly less but that the area of disease had perceptibly enlarged. A 5 per cent. crude coal tar paste produced a distinct shrinking of the area and of the vascular dilatation and on March 19 the eruption was no longer visible.

July 13, 1915, the man presented himself again with a recrudescence *in situ* of his previous dermatitis. This attack was two days old and consisted of a 25-cent-piece-sized area of pruritic infiltration and superficial vascular



dilatation. There was a congestive shadow of the original plaque, emphasized by pressure and subsequent release.

Here again, I was unable to ascertain the cause of this unfamiliar, recalcitrant, localized, recurrent dermatitis and only thought of this second possible analogue on reading Rasch's findings.

CASE 3.—In the present instance I stand on definite etiologic grounds, for this example of "match box dermatitis" came under my care after reading the above mentioned article. The patient was a sportsman who had just returned from a shooting trip during which he had sat in wet clothes in a wet boat for many hours a day. Questioning revealed the fact that he always wore a long shooting coat in which he carried a box of matches in each lower side pocket; that in wading over a salt marsh after his dead birds the skirts of the coat would invariably become wet; and that on regaining his boat he would tuck the long skirts of his coat under his thighs on taking his seat on the necessarily wet thwarts. When the connection of events was brought home to this intelligent man he said that he knew of a man whose skin had been badly poisoned by wet matches in his trouser pockets.

This patient presented on the under side of the middle of the right thigh an area 2 by 3 inches, irregularly round, and composed of solid, brick-red, elevated wheals very reminiscent of the dermatitis we in New England used to see produced by the barbed and poisonous darts of the brown-tail moth caterpillar. On the left thigh just below the buttock, and still higher up on the natis itself were two similar but much smaller lesions.

Crude coal tar proved irritating but the application of a 5 per cent. ichthyana ointment was followed by a rapid cure and five days after the first visit there remained only a shadowy erythema in the "previously affected areas."

These additions to our knowledge of this newly discovered source of dermatitis venenata are interesting in that they represent three rather distinct types: (1) the deep lymphangitic; (2) the superficial eczematoid, and (3) the urticarial.

#### EPIDERMOPHYTON INGUINALE

While writing to you may I bring to the attention of your readers our Boston experiences with the eruptions probably caused by the *Epidermophyton inguinale*. I do not present these notes in a formal paper because they are not substantiated by scientific proof. It is a well recognized fact that it is almost impossible to discover this organism under the microscope; and after repeated trials during the last twenty-three years it is equally true that we in Boston do not succeed in growing the ringworms on Sabouraud's or other artificial mediums in but a very small percentage of the cases. Therefore, a scientific backing for the following observations is unfortunately lacking.

Since Sabouraud's discovery of the *Epidermophyton inguinale* we have naturally made proper diagnoses in "eczema marginatum" of the thighs, then of the axillae and finally of the bend of the elbows. With the knowledge of Whitfield's discovery of the organism between the toes we have correctly diagnosed the peculiar, varied, obstinate, eczematoid eruption between the toes and frequently extending serpigiously backward onto the plantar and more rarely the dorsal surface of the feet. In this connection we have noted the erythemato-squamous type and what might be termed the intertriginous, lardaceous variety. More recently we have come to the conclusion that what Sutton has emphasized as dermatitis infectiosa eczematoides of the sole, the instep and the palm, is in reality a dermatitis of epidermophyton origin. We feel equally convinced that the irregularly disseminated vesico-pustular eruption of the palms is in truth due to this same organism. We are also beginning to force ourselves to the belief that many at least of the palmar and digital, dry and scaling, and equally as many of the superficially and deeply fissured conditions we have considered hitherto eczema and tried persistently

and vainly to cure under this supposition are, after all, examples of epidermophyton infections.

In connection with these observations I should like to suggest to those who can successfully grow the *Epidermophyton inguinale* that they look for this organism in *lingua geographica*.

Thus far, however, we have not been willing to admit Ormsby's conclusions, that all examples of dysidrosis are forsooth the product of this same epidermophyton.

It seems worth while to bring these observations to the knowledge of your readers because we in Boston are beginning to appreciate the importance and the widespread prevalence of this mysterious and insidious infection. We do this also, not alone for the sake of correct diagnosis, but really much more on account of the apparent ease and rapidity of cure possible by the use of Whitfield's ointment; namely, salicylic acid, 2 gm.; benzoic acid, 4 gm., and benzoated lard 30 gm., plus, of course, thorough sterilization of all gloves, stockings and underclothes. This ointment stings and burns badly after the first one, two or three applications; but even during these trying first days the patient realizes his relief from the previous marked, week or month-long discomfort. From this point on, all subjective symptoms rapidly decline and the objective features rapidly follow suit.

CHARLES J. WHITE, M.D.

# Society Transactions

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## NEW YORK ACADEMY OF MEDICINE, SECTION ON DERMATOLOGY

*Regular Meeting, Oct. 2, 1917*

GEORGE M. MACKEE, M.D., *Chairman*

ERYTHEMA INDURATUM (BAZIN). Presented by DR. REMER.

E. C., a woman, aged 41, married, presented herself at Dr. Fordyce's clinic on Feb. 2, 1917. She exhibited a number of indurated, raised, reddened and painful lesions on the legs, involving the skin, anteriorly and posteriorly, as well as subcutaneous tissues. The majority of the nodules and masses had healed under roentgen-ray treatment in the hands of the speaker. Several of them had broken down, but had healed without trouble, with the exception of one large gummalike ulcer on the calf of the left leg. This ulcer did not respond to repeated roentgen-ray exposures, nor did it improve under rest and elevation of the leg. The ulcer was about the size of a silver half-dollar, with well-defined borders and a granulating surface. It gave rise to considerable pain. Varicose veins were moderately well-marked in both legs. A section was removed from the edge of one of the ulcers and examined microscopically, revealing a structure suggestive of Bazin's disease, but far from characteristic, in that the cellular infiltration was diffused throughout the corium, instead of being situated in the deeper portion of the cutis.

The patient was the mother of nine children, all of them said to be in good health. There were no miscarriages. The Wassermann reaction was negative.

### DISCUSSION

DR. HEIMANN said that, clinically, while the lesion was not typical of erythema induratum, yet the appearance was suggestive of Bazin's disease. Histologically, there was a granuloma in which there was a diffuse and focal infiltration which bore no particular relation to the blood vessels. There were no giant cells; the vessel walls were thickened and the vessels were increased numerically. From the histologic standpoint, one might consider both erythema induratum and gumma. The speaker favored the diagnosis of Bazin's disease. Furthermore, the lesion had not responded to antisyphilitic treatment,\* which the speaker understood had been given, and the Wassermann reaction was negative.

DR. POLLITZER said that the diagnosis of erythema induratum seemed unlikely. In the first place, there was no induration and there were five scars of various sizes the result of previous small ulcers. The one large ulcer did not resemble, clinically, erythema induratum. Ulceration occurred in Bazin's disease but not frequently. The speaker recalled that there was considerable erythema around the ulcer which he could not account for by anything in the history of the case, though it might have been due to the roentgen-ray treatment which had been given. The most probable diagnosis the speaker thought was syphilis, but the negative Wassermann reaction, and the failure of the lesion to respond to vigorous antisyphilitic treatment, negated this diagnosis.

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\* Patient had not received antisyphilitic treatment.

DR. OULMANN said the diagnosis of erythema induratum, which might have been present before, could not be made from the lesion shown, on which roentgen-ray treatment did not show the least effect. We usually saw good results from this treatment in the disease mentioned as well as other tuberculous skin affections.

DR. LANE said that he did not think the case was one of Bazin's disease. He thought that the erythema surrounding the ulcer might have been due to some irritating treatment.

DR. LAPOWSKI said that the lesion was a syphilitic ulcer. The fact that the Wassermann reaction was negative, and that antisyphilitic treatment had been given without result, would not modify his opinion in this instance because the ulcer had been irritated by local treatment. The speaker was inclined to think that the erythema was due to the roentgen-ray and he suggested that soothing applications be applied until the erythema disappeared and then he thought that vigorous antisyphilitic treatment would be successful.

DR. ABRAMOWITZ in reply to Dr. Lapowski's statement regarding the loss of efficacy of antisyphilitic treatment in lesions irritated by roentgen-ray, recalled a case of gummatous lesions in which there was also a radiodermatitis and yet the lesions responded promptly to antisyphilitic treatment.

DR. SATENSTEIN (by invitation) said that he disagreed with Dr. Heimann regarding the histologic interpretation. He did not consider the lesion a granuloma and therefore, he thought that it was neither erythema induratum nor syphilis. He was inclined to think that we were dealing with a type of ulcer seen so frequently on limbs containing marked varicosities, the so-called "chronic dermatitis with ulceration."

DR. WISE said that he was quite certain that the erythema was not due to the roentgen ray as the latter had been administered six months previously for the treatment of the ulcer. The erythema was of recent origin and followed the local use of irritating chemicals. The speaker said that one or two smaller ulcers had healed under the influence of the roentgen ray but that the large ulcer had not responded. He was inclined to think that the ulcer was of traumatic origin and due secondarily to the varicose veins.

ADENOMA SEBACEUM. Presented by DR. TRIMBLE.

Woman, aged 21, single. There was a history of having had acne on the back for a number of years. The interesting lesion was situated over the upper portion of the chest and consisted of myriads of enlarged sebaceous glands. They were pinhead in size and very closely aggregated although always discrete. No biopsy had been made but it was assumed that there was a numerical increase in addition to the enlargement. Therefore the above title.

#### DISCUSSION

DR. POLLITZER said that clinically this was not adenoma sebaceum. He regarded the small nodules as sebaceous in nature. Each lesion was perifollicular and sebaceous material could be squeezed out. It was the speaker's impression that the lesions were due to hypertrophy with an accumulation of sebum. Similar lesions were quite commonly seen in cases of acne vulgaris.

DR. AITKEN agreed with the diagnosis of hypertrophic sebaceous glands with an accumulation of sebaceous material. He also had noted similar lesions in acne.

DR. HEIMANN said that when adenoma sebaceum was described by Pringle it was assumed that the lesions were tumors composed of adenomatous sebaceous glands but we had learned that true adenoma of the sebaceous glands was very rare. There were, the speaker said, four types of so-called adenoma sebaceum. The usual form, however, consisted of changes in the connective tissue unrelated to the sebaceous glands without any suggestion of adenoma.



The speaker regarded the lesions in Dr. Trimble's case as sebaceous cysts similar to those seen in acne. In this particular instance they had an unusual situation and the reason that they were so prominent was because the patient was very thin.

DR. WISE said his impression as to diagnosis was different from those mentioned and said he believed the case to be one of lichenoid scleroderma. He admitted that *some* of the papules could be squeezed and sebaceous matter would come out, but considered that that did not rule out the diagnosis of lichenoid scleroderma. The papules were shiny and rather well-defined. He said he hoped Dr. Trimble would be able to report the biopsy findings.

LICHEN PLANUS ANNULARIS, OBTUSUS ET MONILIFORMIS. Presented by Drs. HEIMANN and LEVIN.

F. R., aged 43, married, was born in Italy. The eruption was first noticed on her cheeks about sixteen months ago. It spread slowly involving the whole face, ears, neck and upper extremities. The itching was intense.

When first observed two years ago the eruption was present on the face, ears, mucous membranes of the mouth, upper part of the chest and on the upper extremities. The papules varied from pinhead to large pea size. Discrete lesions occurred at the periphery of the involved areas but for the most part they were confluent, forming irregular and annular plaques as well as beadlike bands. On the face where the eruption was involuting a brownish and blackish pigmentation was present. Small plaques occurred on the upper lip and gums.

The patient had received no internal medication. Improvement followed the local application of oleum rusci ointment.

DISSEMINATED LUPUS ERYTHEMATOSUS. Presented by DR. ROTHWELL.

Man, aged 43. Lesions were present on the face, the chest, and arms. The entire face, except about the mouth, was covered with a diffuse, dark, erythematous infiltration which strongly resembled erythematous eczema. The lesions were of five months' duration.

DISCUSSION

DR. PAROUNAGIAN said that he did not regard the case as being one of lupus erythematosus. He considered the eruption to be a dermatitis or an eczema and believed that it would disappear under soothing applications.

LUPUS VULGARIS UNDER KROMAYER LIGHT TREATMENT. Presented by DR. ABRAMOWITZ.

M. G., a woman, single, aged 15, the sister of the patient with the Aleppo boil scar, was first treated at Dr. Fordyce's clinic about a year ago, for a lesion on the left cheek. The lesion began nine years ago in the form of a small papule which gradually increased in size until it attained the diameter of a 25-cent piece. On examination, a large number of "apple-jelly" tubercles were distinctly visible within the patch of reddish-yellow skin. The surface of the plaque was smooth, soft and pliable. She received ten treatments with the Kromayer light, using the rays filtered with blue glass, deriving but little benefit from the exposures; the apple-jelly nodules persisted after the subsidence of the erythema from the ultraviolet light. One week ago, Dr. Remer applied the rays unfiltered, using glass pressure by means of a quartz prism, resulting in the inflammatory reaction which the patient exhibited on presentation.

## PREMATURE GRAYNESS OF THE HAIR IN A BOY AGED 12 YEARS.

Presented by DR. SCHEER.

J. M., a boy, aged 12, born in this country, came to Dr. Fordyce's clinic on Aug. 23, 1917, presenting a crop of gray hair on the top and anterior portion of the head. The rest of his tonsure was of brown tint and in every respect normal in appearance. The father stated that the hair began to turn gray about two years ago, after the boy had received an injury to the head which left him unconscious for two succeeding days. The patient's general health was good. The father's hair began to turn gray at the age of 22 years.

## ERYTHEMA MULTIFORME. Presented by DR. HEIMANN.

M. C., a boy, aged 5, was first observed at Dr. Fordyce's clinic on April 10, 1916, presenting an eruption of yellowish, reddish and violaceous patches of multiform erythema, some of them being of the iris type. He again appeared with a recurrence of the eruption, on Sept. 19, 1917. The lesions occurred at intervals of about six months, consisting of numerous macules and plaques, together with some concentric circinate patches, varying from a pinhead to several inches in diameter. The color was red, pink, yellowish and violaceous, several tints appearing together in the same plaque. Scaling was absent. There were a few circular lesions on the palms. The patient was said to be in good health and the etiologic factors were not determined. When presented before the Section most of the lesions had faded.

## NEVUS UNIUS LATERRIS RESEMBLING ECZEMA. Presented by DR. ROTHWELL.

Boy, aged 3. The lesion had existed since birth. It was situated on the lower, outer part of the left leg extending from the ankle upward, an area of papular infiltration, very much like a patch of eczema after the vesicular stage had passed. Biopsy showed increased blood vessel information.

## DISCUSSION

DR. HEIMANN said that the lesion looked like an ordinary eczema or at least like lichenification following persistent scratching. It did not look to the speaker like a nevus but it was possible that the lesion had been there since birth; if so, a nevus covered by eczema was to be considered.

## HEMANGIO-LYMPHANGIOMA OF THE UPPER LIP. Presented by DR. MACKEE.

G. B., male, aged 9, born in the United States, appeared at Dr. Fordyce's clinic on Sept. 21, 1917, presenting a lesion of the upper lip which had existed since birth. The mucous membrane of the affected area was studded with numerous isolated and confluent, millet-seed to pinhead-sized, whitish and reddish, vesiclelike elevations. The growth extended from the right side of the upper lip for some distance to the left side, involving part of the lower lip and the right cheek to a lesser degree.

## DISCUSSION

DR. POLLITZER said that he recalled seeing the case when the patient was one year old and at that time there were vascular lesions on the cheek under the eye which were treated with the micro-cautery causing their disappearance without a scar. For the lesions on the lip the speaker thought that radium was the proper treatment.

DR. WISE said that there had been considerable improvement from the two radium treatments. The improvement was possibly 50 per cent.

## LEPRA MACULOSA. Presented by DR. MacKEE.

C. N., aged 25 years, male, colored, a native of Cuba, living in this country since six years, presented himself at Dr. Fordyce's clinic on July 30, 1917. He was a student and was married six years ago. He gave a history of having had a penile chancre seven years ago, which was followed by a macular eruption which soon faded. At that time he was living in Paris and there received antisyphilitic treatment. About a year later, light colored, flat, smooth patches appeared on various parts of the body, slowly increasing in size. The spots were circular and oval in shape, some of them having sharply defined peripheral bands, about  $\frac{1}{8}$  inch in width. The interior of the plaques was smooth and depigmented, contrasting sharply to his brown skin, and resembling vitiligo. Several lesions on the trunk and thighs were distinctly thickened and their surfaces presented a well marked follicular keratosis. Some of the scars on the arms were said to be the remains of lesions which were treated by means of the cautery. Anesthesia was present in some of the lesions. There was moderate enlargement of the ulnar nerves. The Wassermann reaction was positive.

ERYTHEMA MULTIFORME WITH MUCOUS MEMBRANE LESIONS.  
Presented by DR. TRIMBLE.

Man, aged 25, born in Italy. Duration of affection, five years—off and on. Three outbreaks had occurred during the past year. The eruption consisted of bullous lesions in the mouth and on the glans penis; and a few scattered vesico-papules about the ankles and wrists.

## URTICARIA PIGMENTOSA. Presented by DR. WISE.

The following case was presented by the speaker under the erroneous diagnosis of pityriasis lichenoides chronica.

J. P., a man, aged 51, a presser by occupation, was married, born in Russia. The duration of his eruption was nine years. He appeared at Dr. Fordyce's clinic on Aug. 24, 1917, complaining of moderate pruritus. He exhibited a large number of macular lesions, varying in size from a pinhead to a pea, together with many pigmented spots and lentigo-like macules, scattered all over the body, excepting the face and neck, palms and soles. On some regions, notably on the upper part of the back, the macular lesions had become confluent, resulting in the formation of irregularly shaped plaques with indefinite borders. Many of the isolated lesions and plaques were purpuric in character, namely, there was no recession of the redness under diascopic pressure. The multitude of pigmented macules was a pronounced feature of the eruption. In some areas, more especially on the trunk, an indistinct papular eruption was apparent when the surface of the skin was viewed in a slanting light. He gave a history of having taken drops—presumably Fowler's solution—four years ago, over a period of six months. There were no keratoses of the palms and soles. Only the faintest scaling was present. The Wassermann reaction was negative.\*

## DISCUSSION

DR. LAPOWSKI said that he saw this patient nine years ago. At that time there were papules, urticaria wheals and pigmented macules. He made a diagnosis of urticaria pigmentosa and saw no reason to change that diagnosis.

DR. POLLITZER said that the first case of the group to which pityriasis lichenoides chronica belonged was described by Unna and himself under the name of parakeratosis variegata. The disease was later described by Julius-

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\* Biopsy revealed the typical mast-cell infiltration of urticaria pigmentosa. This case is reported in full in the *Interstate Medical Journal*, January, 1918, p. 52, No. 1.

berg under the title given in this case. Dr. Wise's case at first glance resembled parakeratosis variegata. It had the suggestion of reticulation that was so characteristic of the first case of parakeratosis. On closer inspection, however, he failed to find any lichenoid lesions. The lesions were perhaps slightly infiltrated but they were in the main vascular, pigmented macules. The speaker said that undoubtedly Dr. Lapowski had made the correct diagnosis and he agreed with the diagnosis of urticaria pigmentosa.

DR. MACKEE agreed with Dr. Lapowski. There was too much pigmentation and there were no lichenifications. The presence of such marked pigmentation and the absence of papular lesions would speak markedly against pityriasis lichenoides chronica.

DR. WISE said that in pityriasis lichenoides chronica, dermographism and urticaria were frequent concomitants. He was, however, willing to accept the diagnosis of urticaria pigmentosa. The speaker said that he would have a biopsy made and the histologic report would be given at the next meeting.

LEPRA. Presented by DR. BECHET.

The patient, a Sicilian, from Dr. Trimble's service at the University and Bellevue Clinic, and previously presented by him, was 20 years of age. He had been living in the United States for fourteen years. He stated that the disease first appeared six years previously. He had one brother, aged 24, who had a similar disease. Two other brothers were well. The face was extensively covered with various sized nodules and tubercles, the lesions invading the cornea, causing considerable disfigurement. The hands and forearms were also involved. Numerous lepra bacilli were found in sections from the nodules.

GIANT CHANCER OF THE CHIN. Presented by DR. ROSEN.

J. S., male, aged 32, married, a waiter by occupation, was a native of Austria. He appeared at Dr. Fordyce's clinic on Sept. 24, 1917, presenting a large, flat, sharply circumscribed, somewhat raised and indurated ulcer, occupying the entire left side of the chin. The surrounding skin, as well as the entire lower part of the face and front of the neck, was studded with a brownish-red, somewhat scaly, large, maculo-papular syphilid. The trunk presented a faint maculo-papular eruption. There was moderate adenitis of the neck. He received an injection of galyol (20 grains) on the day of his first visit, resulting in an almost immediate improvement in the chancre and a fading of the eruption on the face and body. On the back of the neck there was a chronic folliculitis, which had been there for several years.

#### DISCUSSION

DR. PAROUNAGIAN asked if further arsphenamin (salvarsan) treatment would not be contraindicated in this case on account of the marked skin reaction.

DR. POLLITZER said that further arsenical treatment was contraindicated. The speaker said he would not administer arsphenamin (salvarsan) again in this case for a couple of months and then the first dose should be a very small one.

CASE FOR DIAGNOSIS. Presented by DR. BECHET.

The patient, an Italian, aged 58, from the service of Dr. Trimble, stated that he had had a follicular infection of the bearded region twelve years previously. His present lesions began four years previously and consisted of rather sharply margined violaceous red plaques, of variable size, distributed mostly over the hair margins. The lesions were raised, infiltrated and thickened, with rather patulous follicular openings. A suggestion of atrophy was present in some of the lesions. There was no scaling or ulceration. There was some



folliculitis in the axillae, and marked alopecia. The latter condition was also present on the pubes. Atrophic scarring on the chin and lower cheeks was present, the result of previous roentgen-ray exposure. The Wassermann reaction was negative.

#### DISCUSSION

DR. HEIMANN said that the condition on the face was one of sycosis vulgaris or possibly impetigo of Bockhart. The speaker said that both of these conditions might lead to atrophy.

DR. POLLITZER said that he saw the patient five or six years ago at which time there was a folliculitis of the bearded region. The patient received roentgen-ray treatment which was followed by a radiodermatitis which resulted in a cure of the folliculitis. The speaker said that the condition of the scalp and eyebrows was remarkable. He had never seen a folliculitis behave in this way. The small nodules on the back of the head resembled those seen in lupus vulgaris. The speaker did not consider the condition to be one of folliculitis or of impetigo of Bockhart.

DR. MACKEE suggested that the atrophy was very largely due to the roentgen ray.

DR. LAPOWSKI said that he had followed similar cases over a period of thirty years. He recalled a case of sycosis vulgaris involving the face, head and eyebrows. He saw the patient again fifteen years later and there was a complete alopecia and atrophy. The patient had received no treatment.

DR. BECHET said that this case presented atrophic changes. Some of the patches contained small nodules. There were few if any pustules. The color of the plaques was decidedly violaceous. The follicular openings were rather patulous. This syndrome did not suggest an ordinary follicular infection. He considered the case one of ulerythema sycosiforme.

#### DISSEMINATED LUPUS ERYTHEMATOSUS. Presented by DR. TRIMBLE.

Woman, aged 51, single. The duration of the condition was four months. There were lesions on the arms, legs, face, neck and chest. The lesions, at first, were quite superficial and strongly resembled erythema multiforme. In a very short time, however, scaliness appeared and the condition revealed itself as disseminated lupus erythematosus.

#### LUPUS ERYTHEMATOSUS DIFFUSUS. Presented by DR. WISE.

W. E. G., a man, aged 50, native of Scotland, from Dr. Fordyce's clinic, presented a diffuse red, scaling and slightly infiltrated eruption, affecting the entire face, the neck, the ears, and backs of the hands. The skin of the dorsa of the hands was also inflamed, scaly and somewhat atrophic. The mucous membrane of the lips were slightly involved; also the scalp. The duration of the disease was about two years.

#### CHRONIC CYANOSIS OF THE SKIN WITH ERYTHRODERMIA. Presented by DR. MACKEE.

H. A., male, aged 20, born in this country, a tool-maker by occupation, appeared at Dr. Fordyce's clinic on July 30, 1917. The duration of his cutaneous trouble was ten years. He exhibited a persistent erythrodermia of the face, neck and extremities, associated with a moderate grade of wrinkling of the skin on the arms and backs of the hands, in various regions. On the dorsal aspect of the forearms the skin in places was thickened, somewhat scaly and markedly cyanotic in appearance. In other areas, distinct telangiectatic lesions were present. On the face there appeared to be a combination of cyanosis with ordinary vascular dilatation of rosacea. The neck was reddened and eczematous in appearance. Nearly the entire body, but more especially the trunk, presented a moderate grade of xerosis, as in mild ichthyosis, but

with no fish-scale desquamation. The anetodermia of the skin over the elbows suggested the changes seen in acrodermatitis atrophicans, but the disease as a whole was also suggestive of ichthyosiform erythrodermia. The family history was irrelevant. The Wassermann test was negative.

**SCAR OF ALEPPO BOIL.** Presented by DR. ABRAMOWITZ.

A. G., female, aged 22, a native of Aleppo, Syria, appeared at Dr. Fordyce's clinic on Oct. 1, 1917, for the treatment of a mild acne. She presented an oval scar on the right cheek, below the eye, which she stated was the result of a so-called Aleppo boil. The lesion began fifteen years ago while she lived in her native town, and persisted for six months, finally healing, according to her statement, under external medication. The scar was flat, soft and pliable, resembling the scar of an ordinary burn from acid.

**CASE FOR DIAGNOSIS.** Presented by DR. WOODMAN (by invitation).

F. P. D., aged 40, had been suffering with swollen ankles and red blotches under skin on the front of both legs for two years. He had been taking cod liver oil internally and applied externally to the eruption, with improvement. There was no history of syphilis and the Wassermann reaction was negative. In 1905 he had large glands in his neck and was presented at the Academy as a case of Hodgkin's disease. He went to Europe for a cure and recovered from the swollen glands. While there he was given antisyphilitic treatment. The speaker contemplated giving him roentgen-ray treatment.

DISCUSSION

DR. POLLITZER said that he did not know what relation the present eruption bore to the condition that the patient complained of ten years ago. The eruption at the present time was, the speaker thought, quite characteristic of papulo-necrotic tuberculid. The individual lesions began as nodules under the skin and eventually involved the skin which became reddened and ulcerated and then after a while healing occurred with a resulting scar. The cyanosis and glossy condition of the toes also belonged to the picture being, perhaps, a pernio.

DR. LAPOWSKI said that the patient had painful areas on the legs and that undoubtedly a roentgen-ray examination would reveal periosteal nodes. The speaker was of the opinion that years ago the patient had glandular syphilis and that the eruption when exhibited was also syphilitic.

DR. WISE said that he felt that a negative Wassermann reaction in a case of this kind was strong evidence against the diagnosis of syphilis. The speaker was in favor of the diagnosis of papulo-necrotic tuberculid.

DR. HEIMANN said that he saw the patient five or six years ago at which time he was supposed to have Hodgkin's disease. Also, syphilis had been suggested as, also, was leukemia. The failure of antisyphilitic treatment should rule out syphilis. Judging from the lesions presented when the patient was exhibited, and the history of the case, the speaker saw no reason to believe that the case was one of syphilis. The marked pigmentation could be interpreted as being of blood origin. Bazin's disease could not be considered as this disease did not occur in small numerous lesions. Papulo-necrotic tuberculid was the probable diagnosis.

DR. LAPOWSKI disagreed with Dr. Heimann. He would advise the use of bichlorid of mercury even if the diagnosis were tuberculid as if this treatment were given the lesions would remain away for several years.

DR. LANE was against the diagnosis of syphilis.

DR. PAROUNAGIAN thought it was a tuberculous process and it made him recall a case seen by most of the members and presented by him at the Section about a year ago. There was considerable discussion over the patient but it was finally proved to be tuberculosis cutis, with the aid of the microscope.

DR. WOODMAN said that the patient was receiving cod-liver oil and he expected to give him the benefit of the roentgen-ray treatment.

DR. POLLITZER recalled a case of papulo-necrotic tuberculid which recovered while being given mixed treatment consisting of bichlorid of mercury and iodid of potash. The speaker did not infer that the recovery was due to the treatment as it may have been coincidental. The lesions remained away for more than ten years, as long as the patient remained under observation.

#### TUBERCULOSIS CUTIS. Presented by DR. WISE.

A. T., a boy, aged 10, born in this country, appeared at Dr. Fordyce's clinic on Sept. 27, 1917, presenting lesions of seven years' duration. On the inner side of the right foot, opposite and just below the ankle joint, was an irregularly S-shaped lesion, about 5 inches long and 1 inch wide; the mid-portion of this patch was ulcerated and studded with a few papules and necrotic nodules, some of which exuded pus. The edges were sloping, indurated, of a reddish-violaceous hue and appeared to be undergoing resolution. The anterior portion of the lesion consisted of a flat, reddish, bandlike scar which ended opposite the base of the large toe in a healed sinus, apparently connected with the underlying tendon. The inner side of the right leg presented a circular patch, about 6 inches above the ankle, exhibiting a somewhat crusted center and a healed and deeply pigmented periphery. The Wassermann test was refused.

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### NEW YORK ACADEMY OF MEDICINE, SECTION ON DERMATOLOGY

*Regular Meeting, Nov. 7, 1917*

GEORGE M. MACKEE, M.D., *Chairman*

#### ATROPHIA CUTIS PROGRESSIVA (ACRODERMATITIS ATROPHICANS). Presented by DR. LAPOWSKI.

The patient, Mrs. M. R., aged 30, had been pregnant ten times; the first three were abortions, the fourth, twins who lived only eight days; the last six children were living and well. After the second abortion there was a severe hemorrhage, followed by curettage. The patient could not give the date when the trouble for which she was presented had begun. The urine was normal and the Wassermann reaction negative. From the buttocks down to the thighs there was edema and erythema with the skin appearing like cigaret paper. The knee was edematous and red. The dorsal aspect of the crus was dry with follicular ulcerations of eight months' duration.

#### ATROPHIA CUTIS PROGRESSIVA (ACRODERMATITIS ATROPHICANS). Presented by DR. LAPOWSKI.

Mrs. M. M., aged 51. She gave no history of syphilis. Fourteen years ago, during pregnancy, she had erysipelas of the dorsal surface of the right foot. After the erysipelas disappeared the skin on the thigh suddenly turned blue and remained so. Ten years ago she had typhoid fever and nine years ago, ulceration of the right foot and the big toe of that foot. Since then there had been three attacks involving the same areas. When the patient was first seen, November, 1916, the big toe of the right foot was swollen, denuded and oozing. The anterior aspect of the foot was red and edematous with many scattered islets of superficial follicular ulcerations, some of which were purulent and some closed with a reddish skin, soft to the touch. The ulcerated islets were raised and oozing and the closed lesions were bluish-red, the skin between them being red and tight. On the knee and a little above it, the skin was



soft, pasty, reddish and there were many veins, giving the appearance of cigaret paper. The Wassermann test and the urine were negative. After six calomel injections the lesions on the dorsal aspect of the foot closed and the skin became adherent. In October, 1917, the toes became red, the skin denuded and remained so up to the time of presentation. On the chest, around the sternum and both shoulders, there was a quadrangular atrophied patch like cigaret paper with telangiectasia. On the left side of the neck there were millet-sized areas which gave the appearance of leukoderma.

#### ENDARTERITIS SYPHILITICA. Presented by DR. LAPOWSKI.

Mrs. M. F., aged 25, had been married five years and had had two pregnancies. The first child was living and the second was a premature birth in the eighth month, and died when 3 weeks old. The trouble for which the patient was presented began two years ago. She came to the Good Samaritan dispensary with the distal phalanges of all the fingers swollen, hard to the touch, painful and both small fingers bent. All the other joints were swollen. On the distal phalanx of the right hand there was a pencil-sized ulceration. The patient was then two months pregnant and had neglected treatment. The child was born prematurely and died when 3 weeks old. The Wassermann reaction was ++++. She returned to the dispensary, October, 1917, with superficial ulceration of the dorsal end of the fourth finger of the left hand and all the other fingers were in the same condition as they had been one year previously. The patient was under treatment when presented before the Section.

#### GUMMA OF FOOT; ENDARTERITIS. Presented by DR. LAPOWSKI.

Mrs. D. M. gave no history of any infection; she had five children living. She was first seen two years ago at which time the dorsal surfaces of all the fingers were pale, pinkish and cold to the touch. The nails were bent as if compressed and were clawlike. The thumb and index fingers of the left hand were ulcerated. On the lower extremities there were scars. The mucous membranes were clean. The duration was three years. The Wassermann reaction was negative. She received one injection of calomel and then disappeared for two years, returning one month ago at which time the small finger of the left hand was bent and the dorsal surfaces of the other fingers on this hand were swollen, reddish, cold and the skin was tight. On the right hand the dorsal surfaces of the fingers were swollen, painful, dark-bluish in color and all the nails were affected, the nail of the index finger completely missing. The nails were bent, undermined, keratotic, reddish around the lunula and there was slight infiltration. There was a gumma on the dorsal aspect of the right foot.

#### SCLERODERMA. Presented by DR. LAPOWSKI.

Miss B. F., aged 15. The finger tips and elbow joints became affected nine years ago. The patient had pneumonia six years ago. Three years ago the patient came to the Good Samaritan dispensary with low blood pressure and advanced chronic valvular (mitral) lesions. There was a trace of albumin in the urine; no morphologic changes in the blood and the Wassermann test was negative in the patient and her mother. On the elbows there were penny-sized sharply-cut ulcerations with defined borders. The skin on the fingers and elbows was atrophied and thin. The skin on the rest of the body was normal. The tongue was smooth and glossy. She received two injections of calomel and immediately after the injections the lesions on the elbows closed completely. Up to 1916 the patient had received thyroid extract and two more calomel injections, and the skin on the fingers and the dorsal surface of the hand had become softer and more pliable and no lesions had appeared since the first treatment. In 1917, the patient returned with ulcerations on



the right elbow. She was given injections of calomel under which the lesions closed.

**SCLERODERMA.** Presented by DR. LAPOWSKI.

Mrs. K. S. (aunt of Miss B. F.) was 33 years old. She had been married ten years and had had two pregnancies and no miscarriages. There was no history of any infectious disease. Fourteen years ago the finger tips and joints of the fingers became infected, discharging pus. This condition lasted for many years. A year ago the parotid gland became enlarged and painful but the swelling disappeared and reappeared several times. The patient came to the dispensary a year ago at which time the scalp was dry, slightly scaly, with very sparse hair and erythematous patches. The skin of the face was drawn tight and was lusterless. There were scars on the sternum and on the left shoulder there was the scar of an old sinus. The skin from the wrists to the fingers tips was red and tight and the fingers were bent and it was impossible to straighten them out. The nail of the middle finger of the right hand was missing and on the other fingers the nails were deformed, bent transversely and raised above the finger tips. The tuberculin and Wassermann tests were negative. During observation the ulcerations of the finger tips disappeared and reappeared and could not be influenced either by thyroid extract or local treatment. On November 5 there were spots on the neck and clavicular areas.

**BEGINNING ATROPHIA CUTIS.** Presented by DR. LAPOWSKI.

Mrs. A. S., aged 42, gave no history of any infection. The swelling of the fingers started three years ago and was noted mostly in the winter. On the right side of the nose the skin was thin, dry and stretched.

**ANETODERMIA.** Presented by DR. LAPOWSKI.

Mrs. W. R., aged 30. She had been pregnant ten times, one boy living, since then she had had nine miscarriages, none of them induced. The trouble for which she was presented had been of one year's duration. The disease began with reddish, irregular spots about the size of a penny, in which millet-sized telangiectasia was seen. In the center of the red spots there was a whitish point with scalelike pellicles which could be gathered into a fold. On stretching the fold the skin was whiter than the surrounding skin. Such spots would appear from time to time on the neck and breast, especially the anterior surface and on the back. The skin was white and shiny and looking on it from a side light the folds gave the appearance of lichen papules but on closer observation it was noticed that the white spots were formed by the folded skin, like cigaret paper. When stretched they would give the appearance of thin atrophy, whiter in color than the surrounding surface, but there were no scales. The patches were of various sizes and forms, serpiginous outlines or plain patches. On the neck they gave the appearance of leukoderma. The speaker thought that the red patches which were present on the breasts July 17, 1917, were the primary lesions.

DISCUSSION

DR. GOLDENBERG said that he did not agree with Dr. Lapowski in that all these cases should be placed under the heading of atrophy, as to group them in this manner would be a step backward. Herxheimer, Wise and others had clearly shown that acrodermatitis was a definite clinical entity and one of Dr. Lapowski's cases was of this type. Another case, the woman with the atrophy of the neck, should be placed under anetodermia of Jadassohn. The scleroderma cases presented by Dr. Lapowski belonged to another group.

DR. HEIMANN said that he scarcely knew what to add. Dr. Lapowski considered all the cases as belonging to the atrophic group, while Dr. Golden-

berg divided them into clinical entities, placing some of them under atrophy and some under scleroderma, etc. The speaker did not think that Dr. Goldenberg and Dr. Lapowski were very much at variance, after all, in their underlying thoughts. The question resolved itself into whether or not we should try to differentiate one type of atrophy from another. After all, the atrophy which followed scleroderma was certainly very similar to the atrophy of acrodermatitis. Very often scleroderma and acrodermatitis occurred in the same patient and, at times, it was difficult to make a differentiation between the two. In other words, whether a case was acrodermatitis chronica atrophicans or the end-stage of scleroderma, the underlying features were closely related if not identical. In the macular atrophy of Jadassohn there was a disappearance of elastic tissue so that the skin over the affected area was wrinkled. While there was no great difference among the processes involved, the speaker thought that in the arrangement of our thoughts it would be going backward to follow Dr. Lapowski's plan. On the other hand, in trying to understand the general mechanism, perhaps we would do well to go back and begin over again. Two things must be kept in mind, namely, the clinical type and the end-result. It was a question whether these clinical pictures had not all the same significance. The end-results had perhaps been overdefined.

DR. WISE said that it was necessary to consider both the clinical and pathologic aspects of the various clinical types of acrodermatitis atrophicans. All cases of acrodermatitis atrophicans looked more or less alike while diffuse atrophy in many ways did not resemble acrodermatitis. He saw no reason why there should not be a distinction made between these two types. In most cases of diffuse atrophy the veins did not show through the skin, there was no violaceous color, nor was there any anetoderma; features which were common to acrodermatitis as described by Herxheimer, Finger and Oppenheim.

DR. LAPOWSKI said that the two cases of syphilitic endarteritis with atrophy were presented here only to emphasize the clinical picture of the remaining four cases; one anetoderma, one beginning atrophy of the skin and two of atrophica cutis progressiva (acrodermatitis atrophicans, Herxheimer). He thought that all the four cases presented one disease only, in various stages of development and localized in different parts of the body. In one case (M. M.) the lower extremities presented the classic picture of acrodermatitis atrophicans (Herxheimer and Wise) in its last stage of development, while both sides of the chest of the same patient presented lesions of anetoderma as in the case of W. R. In the other case (M. R.) we saw the process of atrophy in the erythematous-edematous stage around the knees and thighs and of developed atrophy around the malleolus and dorsal aspect of foot. It seemed to the speaker necessary to try to separate the atrophy of the trunk from atrophy of the extremities and make of it a distinct group. It would be very interesting to watch the cases of anetoderma to see whether they would not later develop the progressive type of atrophy of the skin.

NEUROFIBROMAS (?). Presented by DR. LAPOWSKI.

The patient, Mrs. W. M., was 24 years of age. She gave no family history of any infectious disease. She had one child, living. There were many small, pink, nodular lesions on the neck, forearms, crura and both inferior maxillae. The enlarged lesions on the lower extremities were painful. These nodules were closely aggregated, infiltrated and smooth.

#### DISCUSSION

DR. WISE said that he could not make a diagnosis and hoped that a biopsy would be obtained, but suggested the possibility of myoma cutis.

DR. HEIMANN thought that the lesions behind the ear and two or three lesions on the leg might be myomas. The only symptom lacking was that of pain. The case reminded the speaker of one presented by Dr. MacKee some time previously but he would not care to arrive at a conclusion without anatomic study. He did not regard the case as being one of von Recklinghausen's disease.

DR. TRIMBLE hesitated to make a diagnosis. At first glance he would not have thought of neurofibroma. He thought that the possibility of lepra should be considered.

DR. LAPOWSKI said that he had not been able to obtain a clear history. The disease had been present at birth. There was no other case in the same family. While the patient was born in Poland she did not come from the districts in which leprosy was found. In daylight it was possible to see pigmented macules and in places the tumors formed a depression on palpation. For these reasons the speaker regarded the case as one of neurofibroma. He thought it was a mistake to depend entirely on a biopsy as we should be able to make a diagnosis clinically.

#### EXTENSIVE LUPUS ERYTHEMATOSUS. Presented by DR. WISE.

L. V., a woman, aged 22, a native of Hungary, had the eruption thirteen weeks when presented to the Section. She was unmarried and apparently in good health. She presented a widespread, erythematous, somewhat edematous and diffuse eruption, involving the skin of almost the entire face. The lesions on the forearms were widespread and extensive, somewhat scaly and well defined. The lesions on the backs of the hands simulated perniones.

#### GUMMA OF THE TONGUE. Presented by DR. LAPOWSKI.

Mr. M. L. (husband of Mrs. M. F.) came to the Good Samaritan dispensary one year ago with an ulcerated, longitudinal, quarter-dollar-sized patch in the center of the tongue. It had been present one and a half years. He said he had had syphilis fourteen years ago but had had no other manifestations or treatment until the appearance of the above mentioned lesion.

#### CASE FOR DIAGNOSIS. Presented by DR. LAPOWSKI.

Miss R. H., aged 8, was the tenth child out of twelve; three children before the birth of the patient miscarried in early pregnancy and the rest were living. The mother's Wassermann reaction was negative and she had no external symptoms of syphilis nor did she give any history of syphilis. During the second year the patient had had summer complaint. The eruption began four years ago on the neck and was treated for two years and finally disappeared. It reappeared five months ago in the same locations, namely, the right arm and forearm, spreading from the anterior surface of the humerus down to the distal ends of the fingers of the right hand. The patches were annular, with free centers, serpiniginously arranged, consisting of pinhead to millet-sized efflorescences, slightly raised above the surface, remaining either disseminated or forming a border covered with scales which could be easily scraped off, leaving denuded points; but there was no bleeding. On the dorsal aspect of the right hand there were no lesions but a uniform redness and slight scaliness. The nails of every finger of the right hand, especially the thumb and index finger, also the middle finger of the left hand were completely involved; the body of the nail was raised between the nail and matrix. About eighteen months ago a small swelling appeared on the right side of the neck which disappeared, leaving no sign of its having been there. The tongue was denuded and in the center was a longitudinal patch which was slightly swollen and red with marked folds and leukoplakia of many years' duration. The upper and lower teeth were notched. The scapulae had a scaphoid formation. Patient



had been under observation for the last two months but no specific treatment had been given. She had received local applications of white precipitate powders (2 per cent.) and internally, potassium iodid. The lesions had improved in color and consistency; they were paler and less pronounced.

## DISCUSSION

DR. GOLDENBERG said that his first impression was that we were dealing with ringworm of the nail and skin. However, Dr. Lapowski said that a microscopic examination had been made and it was negative. If ringworm could be excluded, then the speaker would consider a superficial type of lupus erythematosus.

DR. MACKEE asked Dr. Lapowski if he were willing to exclude ringworm in such a case without resorting to cultures. Dr. Goldenberg's suggestion of lupus erythematosus was very interesting. The lesions were marginated and the scales were adherent, features found in lupus erythematosus, and this diagnosis would account for the lesions on the mucosa. There was, however, no atrophy in spite of the long duration and he had never seen a case of lupus erythematosus involving the nails. The speaker would regard the case as being one of ringworm until this disease could be positively excluded.

DR. LAPOWSKI called attention to the duration of four years and the fact that the lesions had begun as scaly spots which became circinate and finally serpiginous. In answering Dr. MacKee, the speaker said that he would not be willing to exclude ringworm without resorting to cultures. The speaker also called attention to the fact that this patient had been treated locally for ringworm without any result. The case might be one of lupus erythematosus but he had never seen this disease affect the nails and he had never seen lupus last so long without producing scars. Furthermore, he had never seen lupus erythematosus of the tongue present so much infiltration as seen in this case. He regarded the tongue lesion as a leukoplakia with infiltration. He thought it possible that the case was one of lupus erythematosus but he was more inclined to the belief that it was syphilis.

## ANNULAR PAPULAR SYPHILID. Presented by DR. LAPOWSKI.

The patient, Mrs. S. C., was 55 years of age. There was no history of infection. She had been pregnant fourteen times and had eight children living, three miscarriages in the first two years of marriage, and three other children died in early babyhood. The lesion on the neck was of two months' duration and was the size of a quarter dollar. The patch was annulo-papular. The Wassermann reaction was negative.

## DISCUSSION

DR. WISE could see no evidence of syphilis. The configuration was not that of syphilis. The clinical characteristics were those of an eczema following ringworm or a lichen chronicus circumscriptus.

DR. LAPOWSKI called attention to the negative Wassermann reaction. He said that the dermatitis was due to the application of a plaster. The patient had been pregnant fourteen times. There were eight living children, three miscarriages and three children had died in babyhood. He could not accept a diagnosis of tinea nor of lichen planus. He still regarded the case as one of syphilis.

## LUPUS ERYTHEMATOSUS. Presented by DR. LAPOWSKI.

Mrs. M. R., aged 29. When the patient was 1 year old she had an ulceration of the neck and axilla. Twenty years ago the axillary glands were swollen and suppurated. Nineteen years ago there was an ulceration of the right clavicle, which also suppurated. Years ago she had adenitis of the right side of the neck which was operated on and which left a scar. Seven



years ago the glands on the left side of the neck were removed. Three years ago the lupus lesions first appeared on the face near the nose and spread to other places. The patient had been attending various clinics without relief. When presented the areas affected were the cheeks, behind the left ear and the scars of previously mentioned locations. There was an exostosis of the end of the sternum and the right clavicle. This case could be considered, the speaker said, as a clinical confirmation of the connection between tuberculosis and lupus erythematosus, although the lupus erythematosus did not appear in the vicinity of the removed gland.

#### LUPUS ERYTHEMATOSUS OR ERYTHEMA MULTIFORME (?).

Presented by DR. MACKEE.

H. T., aged 46, a married woman, had been subject to recurrent attacks of erythema multiforme since the past four years. The attacks were accompanied by tonsillitis and rheumatism. About two weeks before presentation she had an attack of tonsillitis, accompanied by the sudden appearance of large, raised, reddish and violaceous plaques on the face, forehead, nose, cheeks, back of the neck, forearms, hands and legs. The lesions varied in size from a pea, on the backs of the hands, to several inches in diameter on the forearms. The lesions on the face and arms were raised at the edges, presenting a distinct narrow ridge, and were depressed in the centers, showing moderate scaling in the interior, with a yellowish and in some instances, violaceous tint. A biopsy was obtained on the day of presentation and the result of the examination was to be reported on at the next meeting. The lesions on the ear resembled erythematous lupus and those on the hands resembled granuloma annulare.

#### DISCUSSION

DR. GOLDENBERG said that the lesions on the face impressed him as being those of lupus erythematosus. On the other hand, the lesions on the forearms and hands looked more like erythema iris. He was inclined to believe that the entire process was lupus erythematosus disseminatus acutus.

DR. HEIMANN agreed with Dr. Goldenberg. The case resembled both erythema multiforme and lupus erythematosus disseminatus. If the lesions were those of erythema lasting two weeks, there should be some signs of involution. One thing that the speaker thought significant against lupus erythematosus was the fact that the patient had such mild systemic manifestations. The case recalled to his mind a patient studied carefully by Abramowitz who had erythematous lesions which became verrucous and which finally turned out to be a probable case of lupus erythematosus.

DR. WISE favored a diagnosis of erythema multiforme although the lesions resembled lupus erythematosus.

DR. LAPOWSKI agreed with the diagnosis of lupus erythematosus.

DR. GOLDENBERG said that pains in the joints were a very prominent feature in a case of lupus erythematosus acutus which came under his observation in 1914, with recurring attacks of skin lesions which resembled erythema multiforme. The patient, a young woman of about 30 years, developed a typical lupus erythematosus disseminatus to which she succumbed. In this case, diagnosed at an early period by Professor Arndt during his visit in New York as lupus erythematosus acutus, the lesions simulating an erythema multiforme came and disappeared just as in Dr. MacKee's case, until they finally became stationary.

DR. MACKEE said that he was unable to arrive at a definite diagnosis, and while being willing to agree with the diagnosis of lupus erythematosus, he was inclined to favor erythema multiforme for the following reasons. There had been several similar attacks over a number of years and yet there was no atrophy. In each attack there was a definite history of rheumatism which

began with and disappeared with the cutaneous outbreak. The lesions in each attack appeared very suddenly and attained their maximum of development in twenty-four to forty-eight hours and resolution began immediately. Dr. Heimann said that there had been no resolution in the lesions. Dr. Heimann had not seen the case previously and he was in error as the speaker had noted a very marked disappearance of the edema. For instance, when he first saw the case there was a walnut-sized nodule on the left side of the forehead. At the time of presentation, only two days later, this lesion was hardly more than a plaque. The speaker called attention to the fact that the lesions on the arms had been exudative and that when the case was presented the exudation had ceased, and the center of the patch was approaching the normal while the margin was distinctly elevated and edematous. Dr. Heimann had alluded to the patient so carefully studied by Dr. Abramowitz, the famous Mrs. Cole. The speaker said that there was a marked dissimilarity in these two cases. The lesions in Mrs. Cole's skin persisted for many months. Again the speaker wished to say that he was unable to make a diagnosis and while he favored erythema multiforme, yet he would not be surprised if the case turned out to be one of lupus erythematosus.\*

#### CARCINOMA OF THE TONSIL. Presented by DR. CHARGIN.

W. S., aged 46, married, father of five healthy children. The wife had never aborted. There was no history of syphilis. The trouble began about five months ago with soreness in the throat, painful deglutition and swelling, subsequently followed by ulceration. There was a deep, irregular ulcerated area occupying the left tonsillar space, obliterating the anterior and posterior pillars and involving the lower adjacent gum and contiguous area of the side of tongue. The base and margin of the ulcer was indurated. At the angle of the jaw were numerous enlarged lymphatic glands, firm and movable. Subjectively there was pain and there had been some loss of weight. The Wassermann reaction was negative. Under potassium iodid some improvement followed.

#### DISCUSSION

DR. WISE said he had had the opportunity of examining the lesion but found the examination difficult on account of the pain. He was unable to differentiate between a carcinoma and gumma. He thought that the patient should receive vigorous antisyphilitic treatment before resorting to an operation, in view of the fact that there had been some improvement under administration of potassium iodid.

DR. CHARGIN said that the lesion had been present five or six months and began with pain and swelling followed by ulceration which now involved the entire tonsil, lower jaw and adjacent area of the tongue. The ulcer was hard with irregular base and the glands on the corresponding side of the neck were markedly enlarged. History of syphilis was denied, and there was no evidence of syphilis. In a person who has been a heavy smoker and the mouth and teeth in a very bad state, one would expect in a syphilitic some evidence of leukoplakia especially in an untreated case; but there was no evidence here. All of which seemed to point to carcinoma as the probable diagnosis.

#### NEVUS ANEMICUS. Presented by DR. GOLDENBERG.

The patient, a woman, aged 35, came under treatment for unsymptomatic syphilis (Wassermann ++++). The speaker accidentally discovered on the left side of the chest a unilateral congenital nevus anemicus with nevus telangiectodes, which showed the typical features, originally described by Voerner and in this country by Lane. The speaker drew attention to the latest experi-

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\* Further observation favored the diagnosis of multiform erythema.

ments of Voerner, published in the *Archiv für Dermatologie* in 1915. He showed that emotional effects or slight local stimulation, causing a hyperemia, did not alter the diminished filling of the blood vessels, while an inflammation, caused by the application of the Kromayer lamp, produced a redness in the anemic area. He concluded that the nevus anemicus was due to a congenital abnormality of the nervous apparatus of the blood vessels, the vasodilators being absent, while the vasoconstrictors were present.

LICHEN PLANUS WITH INVOLVEMENT OF THE PALMS AND SOLES. Presented by Drs. GOLDENBERG AND CHARGIN.

T. S., aged 44. The patient gave no history of a former skin eruption. The eruption for which he was presented was of six weeks' duration and first appeared on the feet (soles) and penis; and spread so that it involved the feet, legs, hands, arms, back, glans penis, scrotum and mucous membrane of the cheeks and tongue. The interesting feature was the extensive lichen planus of the mucous membranes and the marked keratosis of the palms and soles with obtuse, wartlike lesions in the palms. The patient had not received any arsenical treatment.

DERMATITIS MERCURIALIS. Presented by Dr. GOLDENBERG.

T. L. came under observation August, 1916, for syphilis of 27 years' duration. He received sixteen salicylate of mercury injections, when the treatment was discontinued for a short time on account of salivation, and was later resumed by giving fourteen additional injections of mercury salicylate until April 21, 1917. Then he developed a severe extensive universal dermatitis of the type which Neisser had called "urticarial eczema." The affection began on the lower extremities and rapidly spread all over the body and face. He had one arsphenamin (salvarsan) injection on Sept. 27, 1916, and a second one on Dec. 18, 1916—that was four months prior to the development of the universal dermatitis. He was admitted to Mount Sinai Hospital with negative findings as to kidney involvement and showed no other symptoms of mercurialism. He was discharged as cured after eighteen days and was not seen again by the speaker until a few days before he was presented at the meeting, when, in order to demonstrate the susceptibility of the patient to mercury, the official white precipitate ointment was rubbed in twice on a healthy area of the flexor surface of the forearm, producing a severe localized dermatitis.\*

DISCUSSION

Dr. LAPOWSKI said that the urine should be examined before the mercury was given as the eruption might be due to some trouble in the heart or kidneys.

Dr. HEIMANN said that he recollected a case in a girl who had seborrheic dermatitis of the scalp. The speaker had her apply the U. S. National Formulary white precipitate ointment. This was followed by a dermatitis that was thought to have been caused by the mercury. The speaker could only recall one other such case. As far as concerned the relationship between mercurial dermatitis and the urine, the speaker thought that Dr. Lapowski was thinking of hypersusceptibility—that sometimes we would get a cutaneous reaction and sometimes we would not. If the patient should have albumen in the urine it would mean that along with the skin idiosyncrasy there was one of the renal cells.

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\* In order to dispel any doubt which was raised at the time of presentation the patient subsequently received an injection of 2 drops of a 10 per cent. salicylate of mercury emulsion which again caused a severe dermatitis all over the body; in short, involvement of the kidneys, necessitating his readmission into the hospital.



DR. WISE thought that a 10 per cent. ammoniated mercurial ointment was too strong for such a test as such an ointment might produce a dermatitis through its irritative properties, in any patient. A 2 per cent. ointment would be better.

DR. HEIMANN said that he had very frequently used a 10 per cent. ammoniated mercurial ointment and had never seen a reaction therefrom except in the two instances mentioned. A 2 per cent. ointment was, in the speaker's opinion, practically useless.

DR. MACKEE said that in pustular eruptions in children the results obtained with a 2 per cent. white precipitate ointment were very satisfactory. He had never seen a 10 per cent. ointment irritate the skin unless the skin had been previously injured. He recalled a patient who had had an intensive roentgen-ray treatment. This was followed by an erythema which disappeared in a few weeks. After the disappearance of the roentgen-ray erythema, a white precipitate ointment (10 per cent.) was applied and this was followed by a very marked dermatitis. He recalled another case in which a 10 per cent. white precipitate ointment produced a very severe dermatitis when the ointment was applied the day following the application of tincture of iodine.

DR. GOLDENBERG said that besides this case he had seen only one other case in which a dermatitis was produced by one or two applications of white precipitate ointment.

GRANULOMA ANNULARE. Presented by DR. HEIMANN.

The patient, E. S., was a young woman, aged 22, a German by birth. The present illness began seven or eight months ago and no subjective symptoms were noted. Two annular patches were present. The first and larger one appeared on the dorsal aspect of the fourth interdigital space on the left hand near the distal end of the metacarpal bones. It consisted of a ring 1 inch in its horizontal diameter and  $\frac{3}{4}$  inch in its vertical diameter. The margin of the ring was sharply elevated externally and faded off internally toward a puckered, slightly reddened center. The top of the ringed wall was  $\frac{1}{8}$  inch broad and the entire ring was a delicate pink. Situated within the reddened enclosure were eight papules about  $\frac{1}{8}$  inch in diameter. These were elevated about  $\frac{1}{16}$  inch, were flesh colored and each had a central depression. On the proximal end of the proximal phalanx of the fourth finger lay the second ring, which appeared three months ago. It was  $\frac{1}{2}$  inch long and  $\frac{3}{8}$  inch broad, faced downward and outward and was open at its upper and inner segment, giving a kidney-shaped appearance to the entire lesion. Its general characteristics were identical with those of the larger lesion, but included no papules.

#### DISCUSSION

DRS. WISE, GOLDENBERG and others accepted the diagnosis.

DR. MACKEE said that as far as concerned treatment, in all probability the lesions would disappear as a result of one roentgen-ray treatment consisting of 1 H unit. In reply to a question by Dr. Lapowski, the speaker said that in three cases treated by him with the roentgen ray the lesions had never returned although in the course of several years many new lesions developed but never at the exact site of the former lesions.

DR. CHARGIN said that in a case of granuloma annulare that he had treated with the roentgen ray all the lesions disappeared as a result of a single exposure but they soon reappeared in exactly the same spots. However, many of the lesions that had been repeatedly roentgen-rayed were apparently cured; the site showing depigmentation with slight atrophy.

DR. MACKEE said that in his cases it was possible to detect, on close examination, the former sites of the lesions as there was an exceedingly slight atrophy. This, however, was not a roentgen-ray atrophy but was due to the degenerative changes in the tissue caused by the disease.



## PITYRIASIS ROSEA. Presented by DR. PAROUNAGIAN.

The patient was a boy, aged 13, who presented a generalized eruption of six weeks' duration. It was slightly itchy in the beginning though no subjective symptoms were present at the time of presentation. The lesions were macular, slightly scaly, involving most of the body and the face was involved very markedly. The eruption resembled syphilis so much that a Wassermann test was made with negative results. The scalp was free from seborrhea. The patient was presented on account of the extensive involvement of the face.

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NEW YORK ACADEMY OF MEDICINE, SECTION  
ON DERMATOLOGY

*Regular Meeting, Dec. 4, 1917*

GEORGE M. MACKEE, M.D., *Chairman*

## BROMODERMA. Presented by DR. ROTHWELL.

The patient was a white man, aged 46, and was born in Russia. He presented a patch of papillomatous and pustular infiltration covered with a flat bulla, the whole picture resembling a second degree burn accompanied by infection, on the dorsum of the right hand, between the metacarpal bones of the thumb and index finger. On each thigh, dirty, heaped-up crusts of about silver dollar size in circumference, were present. For about six months the patient had been taking 66 grains of sodium bromid daily, for "falling sickness." The skin lesions were of only one month's duration, and except for a slight soreness were unaccompanied by subjective symptoms.

## MYCOSIS FUNGOIDES. Presented by DR. TRIMBLE.

The patient was a white man, aged 42, a Hebrew, born in Russia, and came to the United States when 20 years of age. He resided mainly in New York and Connecticut. He remembered no disease of childhood nor had he been sick since. He had been married fifteen years; had four living children; his wife was healthy and there were no miscarriages. He denied venereal disease and the Wassermann test was negative. The early symptoms were scaling of the palms, without pruritus; the palms became progressively thicker, the scalp was next affected, circumscribed areas of alopecia appearing, which were permanent. The disease then extended over the entire body with redness, infiltration and scaling. Itching had been present for about two years, but was never severe. The patient was very sensitive to cold. No tumor masses had ever been seen. The case had been previously presented by Dr. Lane of New Haven.\*

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\*The microscopic examination made from specimen removed from the chest was as follows: "Hyperkeratosis. The layer immediately beneath the stratum granulosum was poorly defined, many nuclei were missing. Many of the remaining cells showed vesiculation around the nuclei. This layer was much thinner than normal. The basal cell layer was poorly defined in areas, in others absent. But few pegs were seen. The papillary layer of the corium stained faintly; the blood vessels were dilated and there was a very diffuse scattered infiltration in this layer and a small amount of pigment. There was nothing distinctive about this infiltration. The cells were scattered round cells, fibroblasts, few plasma and basophils. No giant cells were seen. Very little of the deeper layers of the corium were present in the section."

## LICHEN PLANUS HYPERTROPHICUS. Presented by DR. ABRAMOWITZ.

The patient, C. W., aged 47, was a native of China. He presented numerous circumscribed and disseminated patches on the legs, thighs and the trunk. The most pronounced lesions were located on the buttocks and thighs. These were pigmented in the center and hypertrophic at the periphery. There were many involuting lesions. The biopsy revealed a typical structure of lichen planus. The Wassermann reaction was negative.

## DISCUSSION

DR. ABRAMOWITZ said that when he saw the patient for the first time it looked very much like syphilis, clinically. The biopsy was characteristic of lichen planus, however.

## MYCOSIS FUNGOIDES. Presented by DR. ROTHWELL.

The patient, a white man, aged 26, presented plaques which were red, infiltrated and scaly, of various size, and intervening areas of apparently normal skin, distributed over the trunk, arms and legs. Some of the infiltrated areas were very definitely circumscribed—others not so definitely. Some areas were pigmented, of a brownish tint. The patient complained of itchiness and scabiness during the previous two years. The family history was negative as was also the Wassermann reaction. The report of the biopsy was as follows:

"General thinning of the derma with areas in which the pegs were obliterated; the papillary bodies were edematous and, in areas, projections from the papillary bodies had pushed upward through the epidermis, completely obliterating the basal cell layer and most of the stratum mucosum up to the stratum granulosum. In areas these two layers were poorly defined and the cells that could be made out showed intracellular edema. There was here and there slight epidermal and subdermal vesiculation. There was dilatation of the blood vessels of the upper portion of the corium and cellular infiltration. The cells were not closely packed together, due to the edema.

Type of Cells Seen: Fibroblasts, scattered plasma cells, basophils and occasional large cells containing two and three nuclei. This cellular infiltration which was distinctly limited to the upper portion of the corium, followed the blood vessels into its deeper portions. A small amount of pigment (extracellular) was found in the corium.

Diagnosis: Skin infiltration of granulomatous type."

## DISCUSSION

DR. WISE thought that the case resembled the aleukemic type of leukemia cutis. The atrophy of the scalp suggested lupus erythematosus. The speaker thought that in a case of this kind the glands should be examined microscopically and also frequent blood counts should be taken, bearing in mind the possibility of blood changes taking place at some future time in the course of the disease.

DR. PISKO said he thought the scalp lesions suggested a radiodermatitis.

DR. TRIMBLE said the patient was presented at the New York Dermatological Society and at the Dermatological Clinic of the American Medical Association at its last meeting, by Dr. Lane. He thought the members might be interested in seeing the patient as there had been so much improvement from roentgen-ray treatment. The patient had also had arsenic injections along with the roentgen ray which might also have caused the condition to improve. The main point that the speaker wanted to bring out was "that he disagreed in a sense with his own diagnosis." Dr. Lane had made a pathologic examination and had been kind enough to send a section of skin to the Bellevue clinic. One had

also been sent to the Vanderbilt clinic. All three reports had been the same (mycosis fungoides). When the patient was first seen, the eruption was universal, there was profuse scaling, the scales were fingernail size; the inguinal and other glands were enlarged; there was a large atrophic lesion over the sternum and also one on the scalp and the patient was losing his hair. These atrophic areas were foreign to premycosis, unless they represented healed fungoid lesions, and the patient had not reached the tumor stage. All these points taken together with especial emphasis on the atrophy, caused him to think that the malady was not typical premycosis, but in all probability a case of lymphadenosis cutis, similar to one reported to the dermatological section of the American Medical Association by Dr. Wise, and only recently published in *THE JOURNAL*. The symptoms in Dr. Wise's case were more intense and of longer duration. The case in question might be spoken of as an early one. The speaker thought that the case was one of lymphadenosis cutis, of the aleukemic type, using the classification of Arndt. The speaker said that the scalp condition was present when the patient was exhibited by Dr. Lane. He was convinced it was not a radiodermatitis. Two blood counts had been made and they were both normal.

#### CASE FOR DIAGNOSIS. Presented by DR. TRIMBLE.

The patient, a Polish white man, aged 55, was a tailor by occupation, and presented on the right side of the vertex of the skull, extending from shortly below the usual location of the normal hairline (the patient was bald) upward on to the vertex for a distance of about 3 inches, a linear streak of warty-appearing, small cuticular projections. About a year previous to presentation, the lesion had been curetted and cauterized but had reappeared. The duration of the condition was two years.

#### DISCUSSION

DR. AITKEN suggested lymphangioma circumscriptum.

DR. WISE thought it was a linear nevus developing in an adult.

DR. HEIMANN said it was difficult to arrive at any conclusion. Follicular lupus vulgaris and lupus erythematosus might be considered. It was a hypertrophic follicular disease but the speaker could not recall any of the follicular processes that would fit in with the picture of this case except atypical lupus erythematosus.

DR. SATENSTEIN (by invitation) said that the patient told him that the condition had probably been present all his life but that he had not noticed it until his hair became very thin two or three years ago.

DR. POLLITZER said that one element against linear nevus was the duration of only three years. If it had been present since youth, there would be no doubt as to the diagnosis.

DR. TRIMBLE said that he had at first thought it was a nevus and changed his mind on account of the short duration. He was not entirely willing to accept this added information in regard to the history by Dr. Satenstein and he would look further into the case. If Dr. Satenstein was correct, it would change the general conception of the case.

#### LUPUS ERYTHEMATOSUS WITH PIGMENTATION. Presented by DR. WISE.

H. N., a man, aged 42, was a native of Syria; he appeared at Dr. Fordyce's clinic on the day of presentation, for the first time. He presented typical discoid patches of lupus erythematosus on both cheeks and on the chin. These lesions were in a stage of involution, displaying atrophy and an unusual amount



of deep brown pigmentation. The disease started six years ago. The patient was exhibited mainly on account of the abundant pigment deposits in all of the patches.

## DISCUSSION

DR. TRIMBLE agreed with the diagnosis but thought that lupoid sycosis should be considered.

DR. AITKEN agreed with the diagnosis of lupus erythematosus.

## COLLOID MILIUM. Presented by DR. HEIMANN.

The patient, J. M., aged 40, had been afflicted with his present disease for fifteen years. It began in the middle of the first interdigital space on the back of each hand and had gradually spread until it extended from the cuff-line to the first phalanges on both sides. Ten years ago the margin of the left ear became involved, where there was a patch 1 inch long and  $\frac{1}{2}$  inch wide. A very small, similar patch was noted on the right ear on the day of presentation before the Section. No other parts of the body were involved. There were no subjective symptoms and the patient complained only of the cosmetic defect. The lesions were densely aggregated, flat or rounded papules about a millimeter in diameter and  $\frac{1}{2}$  a millimeter high. Their color was lemon-yellow to pink. Their consistency was hard and they glistened with a waxy luster. The lesions on the ears were the color of light claret and soft to the touch. Pinching of the hand lesions caused a hemorrhage which imparted to them the same tone found in the ear lesions. The histologic examination made six months previously by Dr. Ketron, to whom priority in the case should be accorded, confirmed the diagnosis of colloid milium.

## THREE CASES OF ERYTHEMA INDURATUM. Presented by DR. ROTHWELL.

CASE 1.—The patient was a white boy, aged 13; this was an old case of infantile paralysis. The patient wore braces on both legs from the hips down for that condition, and presented on the dorsum of the left leg, about midway between the knee and the ankle, two or three deep nodular infiltrations, adjacent to each other, of brownish color, over the center of the largest of which there was softening, but as yet, no open ulceration.

A paternal aunt of the patient's died at the age of 34 of pulmonary tuberculosis and her daughter was ill with pulmonary tuberculosis. The family history was otherwise negative.

The lesion was of two weeks' duration at the time of presentation. Two years previously he had had similar lesions which also lasted two weeks and disappeared under bland ointment, without ulceration.

CASE 2.—The patient, a white woman, aged 31, presented on both legs, especially on the backs, red, inflamed, painful, nodular infiltrations, some of which had broken down, showing ulceration. In those showing ulceration there was a surrounding area of redness and infiltration. There was no history of pulmonary tuberculosis in the family. About one year previously the patient had noticed the appearance of "lumps" on the backs of the legs, which were not painful and varied in size. Some would persist and some would disappear. Beginning in August, 1917, those that were present became very tender and inflamed and in about three weeks' time broke down and from that time on there had been some ulcerating lesions.

CASE 3.—The patient, a white woman, single, aged 21, showed several swellings on one leg and four ulcers with punched-out edges and pigmented areas on the other leg. All the lesions were below the knees. The family history was negative for tuberculosis and syphilis. The patient was always a "sickly



child," had a cough and had to have a tonsillectomy. The trouble for which she was presented began in 1915 with an attack of facial erysipelas which made her very ill. This was followed by the appearance of swellings on the legs; these broke down and were hard to heal; she was sick three or four months and then apparently recovered. In June, 1917, swelling of the legs again recurred, with ulcerations. She was seen in August, 1917. The Wassermann test was negative twice and she made slow recovery on mixed treatment and ammoniated mercury ointment, locally.

#### DISCUSSION

DR. WISE agreed with the diagnosis of erythema induratum in the last two cases. In the other case, the young boy, he ventured a diagnosis of pernio.

DR. POLLITZER said that in the case with the deep ulcers, the appearance suggested syphilis. The ulcers were of a deep, punched-out type with a thin secretion and surrounded by infiltration. He was inclined to think that this was a case of ulcerating gumma. The other woman he thought presented a clear case of Bazin's disease. In the boy the absence of any induration and the loosening of the horny layer was decidedly against erythema induratum; it looked like a traumatic dermatitis.

DR. TRIMBLE said that he agreed with the exhibitor in all three diagnoses. He admitted that in the woman with the punched-out ulcers the lesions certainly looked like syphilis but he thought two negative Wassermann reactions along with the history was enough to rule out syphilis. In the second woman the lesions had healed under antisiphilitic treatment but such a phenomenon was not uncommon in Bazin's disease. In the case of the boy he thought that trauma had been ruled out and in his opinion there was enough infiltration for Bazin's disease.

DR. PISKO agreed with the diagnosis of Bazin's disease in the woman with the ulcers. In the case of the boy he agreed with the diagnosis of traumatic dermatitis or lupus pernio.

DR. GILMOUR said that he agreed with the diagnosis excepting in the case of the boy. In this instance he thought that pyoderma occurring on the paralyzed leg of an undernourished boy was the probable diagnosis.

DR. ROTHWELL said that if the lesion in the little boy were pernio he would expect to find lesions on the toes and feet. In the woman with the ulcerated lesions there had been similar lesions off and on for two years and they were painful, which would not be the case in syphilis.

#### ANGIOMA CAVERNOSUM OF UNUSUAL EXTENT. Presented by DR. MACKEE.

The patient, A. S., aged 6 months, was from Dr. Fordyce's clinic. There was a palm-sized, blood-red angioma occupying the right side of the forehead and the right eyelid. This tumor was elevated one-half inch and prevented the eyelids from opening. There was another elongated, similar lesion in the middle of the forehead, extending down on to the upper part of the nose. A walnut-sized angioma was situated on the upper lip pushing the nose upward and to the left. The lower lip was also the seat of a walnut-sized tumor. All these tumors taken together caused very marked distortion of the face and interfered with the functions of the mouth, the nose, and the right eye. The deformity was so great as to make the child a monstrosity. The exhibitor said that he had already instituted roentgenotherapy in this case and that he thought a good result could be obtained in a year or two.

## ACRODERMATITIS CHRONICA ATROPHICANS. Presented by DR. ROTHWELL.

The patient, a white married woman, aged 38, presented especially on the left leg from the lower thigh to the ankle, a thin, smooth, cigaret-paper like, crackled integument through which veins showed prominently. While this region showed the condition most prominently, the skin of the right leg, midway between the ankle and knee, showed the same condition moderately. Both legs showed varicosities, but the left leg more clearly showed the condition for which the patient was presented. The duration was fifteen years. There was a history of having fallen and hurt her knee, with "blood poisoning following" (probably cellulitis), but she was of the opinion that this particular skin condition had preceded the injury. She complained of pains in the knees and legs. The Wassermann reaction was negative.

## FOLLICULITIS DECALVANS. Presented by DR. TRIMBLE FOR DR. LANG.

The patient, a white woman, aged 28, presented on the back of the head, within the hair line, an area of about a silver dollar in size, of dense cicatricial tissue, about the periphery of which at various points could be seen active folliculitis, and from the lower border of which there extended a promontory of hairs with evidently accompanying folliculitis. The general surface of the cicatricial area was wholly devoid of hair growth, undoubtedly as the result of preceding destructive follicular inflammation. The outline of the whole was irregular in conformation. The hairs were examined microscopically for *tinea favosa* and the report was negative. The Wassermann reaction was negative. The patient came to the United States from Russia nine years previously. She remembered always having been treated for the lesion at the back of the scalp, which itched considerably. She had been married six years; her husband was well; there were two living children and no miscarriages nor dead children.

## DISCUSSION

DR. PISKO said that he had never seen so much destruction of tissue in folliculitis decalvans. He favored a diagnosis of lupus erythematosus.

DR. ROTHWELL said that the lesion began in early life which was against the diagnosis of lupus erythematosus.

DR. HEIMANN said that it was not clearly either folliculitis decalvans or lupus erythematosus. The fact that the destruction was so profound was against folliculitis decalvans in which it was rare to find an active destructive process. On the other hand, so much destruction of tissue was against lupus erythematosus. The patient had been treated by different druggists and some of the scarring might have been due to this fact. He did not see how either diagnosis was justifiable as the lesion appeared when presented. Furthermore a number of men considered the two processes to be more or less identical.

DR. WISE favored a diagnosis of folliculitis decalvans. The scleroderma-like scar was unusual but he did not feel that this could rule out that diagnosis.

DR. TRIMBLE said that he thought the scarred skin in the affected area was too thick for lupus erythematosus as scars of this disease were usually thin and atrophic.

## CASE FOR DIAGNOSIS. Presented by DR. TRIMBLE.

The patient, a white woman, aged 56, presented on one side of the forehead a pinkish or faintly red area of infiltration, distinctly bounded by the middle line of the forehead and extending from the right brow to the hair line in its perpendicular dimension and from the middle line to about half-way to the temporal ridge in its horizontal dimension. The outer border was not so definitely outlined as the inner. The duration was three months. The Wasser-

mann test was negative. There were no subjective symptoms beyond frequent shooting pains in the head since the appearance of the lesion. When it appeared, she had felt nothing; others had noticed the lesion before she was aware of it.

#### DISCUSSION

DR. AITKEN thought that it was a case of epithelioma.

DR. POLLITZER said that the large lesion near the inner canthus was suggestive of epithelioma but the other lesions were probably of the same type and they certainly were not epithelioma. Sarcoid was to be reasonably considered but in this disease there was no rolled margin and again the color was not that of sarcoid. The speaker was unable to make a definite clinical diagnosis and suggested a biopsy.

DR. TRIMBLE said that a biopsy would be made in both cases and reported at the next meeting.

DR. POLLITZER added that the possibility of the large lesion being morphea should be considered.

#### RINGWORM OF THE NAILS. Presented by DR. ABRAMOWITZ.

The patient, P. N., was a woman, aged 28, born in Hungary. She had been married ten years and had two children living and well, and had had no miscarriages. Her only occupation was housework. There was no history of any serious disease nor of a skin disease. The condition for which she was presented was of two years' duration and began as an infection of the right index finger which suppurated; since then this finger and the ring finger of the left hand had been in a condition as when presented. There was swelling and redness of the nail folds, the posterior edge of nails being mostly involved showing a slight roughening and concavity. The patient complained of "sticking pain." Scrapings from underneath the nail folds showed large spores.

#### CASE FOR DIAGNOSIS. Presented by DR. TRIMBLE.

The patient, a white woman, aged 29, presented on the bridge, sides and tip of the nose, four areas of dusky-red and brownish colored infiltration, the borders of which were raised above the level of the normal skin, and of a waxy character. The largest lesion measured about 1 inch in its long dimension and  $\frac{1}{2}$  inch in its short dimension and reached from the ridge of the nasal bones obliquely downward on to the cheek. The sunken center was best demonstrated in this, the oldest lesion. There was no scaliness and no appearance of enlarged follicles. Enlarged capillaries could be made out with a lens. The duration of the condition was two years. The Wassermann test was negative. The patient's father died at the age of 30 of pulmonary tuberculosis; otherwise the family history was negative. The patient had always enjoyed good health except for typhoid fever twenty years previously. There were practically no subjective symptoms. The eruption itched only rarely and then not intensely.

#### DISCUSSION

DR. WEISS thought it was a case of linear morphea and thought that it could be cured with thyroid extract. The speaker had a similar case which was completely cured in this manner.

DRS. WISE, HEIMANN and ABRAMOWITZ agreed with the diagnosis of scleroderma.

#### CHILBLAIN LUPUS (PERINONES). Presented by DR. MACKEE.

N. S., a single woman, aged 18, had had trouble with the skin of her hands and arms since the past four years, chiefly in the winter seasons. She first applied for treatment at Dr. Fordyce's clinic on the day of presentation. Both hands, the dorsal as well as the palmar aspects, presented a deeply



cyanotic, edematous and partly ulcerated eruption, appearing in the form of small disks and rings, affecting chiefly the backs of the fingers, and resembling a severe chilblain. Several fingers exhibited pea-sized, indolent ulcers with sharply defined, crateriform edges. On the right forearm were numerous dusky-red patches and disks of inflamed and edematous skin, slightly scaly, characteristic of erythematous lupus. Similar patches were seen on the right elbow, where the skin had become markedly atrophic. On both cheeks were circinate lesions of active and retrogressive patches of erythematous lupus. The girl had had an attack of infantile paralysis in 1900, causing atrophy and paralysis of the right forearm.

ECZEMA SEBORRHEICUM OR PSORIASIS. Presented by DR. TRIMBLE  
for DR. LANG.

The patient, a white woman, aged 39, presented on both palms and sides of two fingers areas of surface denuded of the usual horny epidermis, infiltrated, dry in appearance, scaly, with well-defined circumscribed margins; in addition, on the palms, lying without these red areas there were a number of hard, horny keratoses, with a surmounting small scale and of about pea size. On one wrist was a half-dollar sized, red, scaly, definitely margined, infiltrated psoriasis-like patch. On the soles of the feet keratosis was present; between the toes the skin was whitish as from maceration. In the cleft, and on the contiguous surfaces of the nates for about 1 inch from the middle line and extending from about 1 inch posterior to the anus forward over the labia and on to the mons veneris, and in the groins, the eruption was similar to that of the wrist patch (red, infiltrated, scaly, definitely margined). The scalp, previous to presentation, had had the appearance of thickly crusted eczema seborrheicum but after two weeks' application of a 5 per cent. salicylic acid-Lassar paste, had improved considerably. The family history was negative. The patient had always enjoyed good health; had an attack of "shingles" on the chest when 5 years old. The trouble for which she was presented began in August, 1917, in what appeared to be a small callus on one thumb; later, one appeared on the other thumb; later still, others appeared on the palms; apparently coalescing, they produced the present appearance with subjective symptoms of itching and burning; then followed the involvement of the feet, groins, and vulva; the scalp was not involved until six weeks after the appearance of the first lesions. The Wassermann test was negative. Microscopic examination of scales showed rounded globules which resembled spores.

DISCUSSION

DR. NEWMANN said that this case was similar to one that he had had under observation three or four years ago. The eruption was mainly on the hands but there were lesions also on the vulva. The eruption was papular at the start, the papules coalesced and spread peripherally. There was some exudation and a little pus and the spreading margin showed an undermining of the epidermis. Dr. MacKee saw the case at the time and thought it was psoriasis but the speaker thought that his own case and the one presented by Dr. Trimble were examples of the dry form of dermatitis repens described by Crocker under the title of acrodermatitis perstans.

DR. POLLITZER considered it to be psoriasis. There were very distinct lesions of psoriasis on the wrists while the lesions on the scalp resembled eczema seborrheicum, a very frequent combination. He saw nothing that would suggest to his mind a diagnosis of dermatitis repens.

DR. TRIMBLE said that he was not ready to rule out a diagnosis of ringworm although he favored seborrheic eczema. He was willing to agree with Dr. Newmann regarding dermatitis repens if this were considered as a symptom and not as a distinct entity.



DR. HEIMANN said that he saw the patient at the Post-Graduate Hospital and at that time the lesions on the hands were quite moist. The lesions on the ears were not then present although there were some lesions on the scalp. He had thought of the possibility of the type of ringworm described by Whitfield and later by Ormsby. He applied the ointment suggested by Whitfield but the eruption became worse. Wet dressings were then applied with good effect. The speaker thought that the lesions were too moist for psoriasis but it was possible that the inflammation and exudation had been caused by treatment. Basing a diagnosis on the appearance, the speaker favored psoriasis. He agreed with Dr. Pollitzer that there was nothing to suggest a diagnosis of dermatitis repens.

DR. AITKEN said that the dry lesions on the wrists were typical of psoriasis.

# Review of Dermatology and Syphilis

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Under the direction of FRED WISE, M.D., New York

Assisted by

PAUL E. BECHET, M.D., New York

W. H. GUY, M.D., Pittsburgh

ROBERT C. JAMIESON, M.D., Detroit

M. F. LAUTMAN, M.D., Hot Springs

A. W. STILLIANS, M.D., Chicago

OSCAR L. LEVIN, M.D., New York

M. L. RAVITCH, M.D., Louisville

ISADORE ROSEN, M.D., New York

VICENTE PARDO, M.D., Havana, Cuba

C. C. TOMLINSON, M.D., Omaha

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## BRITISH JOURNAL OF DERMATOLOGY AND SYPHILIS

*(January-March, 1918, 30, Nos. 1-3)*

Abstracted by I. ROSEN, M.D.

ON SOME RECENT RESEARCHES ON THE NATURE AND FORMATION OF PIGMENT. ARTHUR WHITFIELD, p. 2.

A CASE OF RAPIDLY FATAL MYCOSIS (GRANULOMA) FUNGOIDES. F. PARKES WEBER, p. 7.

The patient, a woman, unmarried, aged 53, presented an eruption of raised red or purplish disks or plaques of all sizes, chiefly on the trunk. There were also fungating growths and large crateriform ulcers. While there was nothing in the patient's history to suspect syphilis, yet the Wassermann reaction on two different occasions was weakly positive.

The patient said that she was perfectly well up to five months ago. On admission to the hospital she had a temperature of septic nature, varying from 98 F. in the morning to 102 F. in the evening. This septic pyrexia continued until the patient died, Nov. 27, 1917, seven months after the onset of the disease.

The most unusual feature of this case is the rapid course. The author has published photographs showing the large crateriform ulcerations, also numerous fungoid lesions.

The reason for the rapid course in this case was the occurrence of grave secondary septic complications, which were manifested by the pyrexia, the endocarditis, the softening embolic infarctions in the spleen, and which were disclosed by the necropsy.

A CASE OF PRURITUS IN HODGKIN'S DISEASE--LYMPHOGRANULOMATOSIS PRURIGINOSA. F. PARKES WEBER and P. W. DOVE, p. 15.

A CASE OF CUTANEOUS TUBERCULOSIS FOLLOWING THE OPERATION OF TATTOOING. S. E. DORE, p. 22.

The author's case, an artillery officer, aged 29, with no history of tuberculosis, gives the following history. Five years previously he had been tattooed on the right forearm; there was a slight amount of inflammation

following the operation which was the usual course. Three years later he had the design touched up by the same operator. One year and a half after the retouching he noticed a small swelling on the tattoo mark, followed later by the appearance of numerous minute raised spots. The papules varied in size from a pinhead to a small pea, and some of the larger ones showed a minute central depression resembling a papulo-necrotic tuberculid. All the lesions were situated within the tattooed area, and in the patient's opinion corresponded with the points which had been retouched. In the axilla of the same arm there was a chain of enlarged glands.

The points of interest in this case are (1) the rarity of tattooing as a source of infection in cutaneous tuberculosis; (2) the length of the incubation period—assuming that the tattooing was the cause of the lesions; (3) the coincident development of a tuberculous ulcer, and (4) an eruption of necrotic papules limited to the area of the design.

#### HEREDITARY ANGIOMATA (TELANGIECTASES) WITH EPISTAXIS.

S. NORMAN PAUL, p. 27.

This unusual case occurred in a woman aged 32, who stated that since childhood frequent bleeding from the nose occurred. When she reached the age of 14 or 15, angiomas appeared all over the face. In size they varied from a pinpoint to a millet seed, the former predominating.

The mucous membrane of the lips was extensively involved, while the buccal mucous membrane and fauces were free. The tongue showed numerous angiomas, and in the center there was one which measured about 5 mm. across. There were a few telangiectases on the hard palate and on the conjunctival surfaces of the eyelids. The palmar surface of the left hand showed a few telangiectases. There were also a few on the dorsal surface of the fingers of both hands.

The appearance of the patient together with the blood examination did not suggest anemia. Nor was there any tendency toward hemophilia.

The condition is one which, although definite and distinct, is liable to pass unnoticed by those outside the sphere of dermatology, on account of its almost complete absence from dermatological works.

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#### PROCEEDINGS OF THE ROYAL SOCIETY OF MEDICINE

(June, 1918, 40, No. 8)

Abstracted by W. H. GUY, M.D.

#### SYPHILITIC RASH APPEARING AFTER TWENTY-THREE INJECTIONS OF NOVARSÉNOBILLON. J. L. BUNCH, p. 78.

An itching, more or less generalized, grouped follicular eruption that first appeared after twenty-three injections of the above-named drug. The eruption was first noted near the sites of injection—on the arms and on the buttocks. The individual lesions were erythematous, slightly scaly, and definitely follicular. There was an adenitis in the groin and the epitrochlear glands were enlarged. During discussion, pityriasis rosea and a follicular syphilid were mentioned as possible diagnoses. The possibility of a drug eruption was not entertained.

#### ACUTE GENERALIZED LICHEN PLANUS. GEORGE PERNET, p. 81.

A thin, poorly nourished patient with a typical generalized lichen planus in which the itching was "dreadful," allowing of no sleep night or day. A lumbar puncture was made—8 c.c. of fluid being removed. Reported as fol-

lows: No lymphocytosis; Fehling reaction present. Immediate relief of itching was noted and involution of lesions began. This is the third case of acute lichen planus treated by lumbar puncture at the West London Hospital, with good results.

FIBROMA MOLLUSCUM. G. W. SEQUEIRA, p. 82.

A father and two sons with multiple rounded and pear-shaped tumors varying in size from a pinhead to a small tangerine. Of particular interest is the fact that the growths practically disappeared under small daily doses of thyroid extract.

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## ANNALES DES MALADIES VENERIENNES

(February, 1918, 13, No. 2)

Abstracted by PAUL E. BECHET, M.D.

THE TREATMENT OF RECENT SYPHILIS. GAUCHER, p. 65.

The author again condemns the use of arsphenamin in syphilis. Mercury in his opinion is still the most important therapeutic agent in the treatment of this disease. The plan of treatment he advises is as follows: Daily injections, for twenty to thirty days, of benzoate of mercury in doses of 0.02 gm., or twenty to thirty mercurial inunctions. The following month, pills of corrosive sublimate are administered, then for fifteen days an interval of rest; after which the mercurial treatment is continued fifteen days out of each month for two years; then ten days out of each month for the two following years. In place of the bichlorid pills, Van Swieten's liquor, or a solution of lactate of mercury, may be given. Exceptionally, for instance in cases of phagedenic chancre or severe cephalgia, mercury cyanid may be injected intravenously. The author believes that iodid of potassium is of equal value in the three stages of the disease. Sulphur water favors the assimilation and elimination of the mercury. Arsenic is occasionally useful in the treatment of the anemias which occasionally accompany syphilis.

GENERAL CHARACTER AND EVOLUTION OF THE CHANCRE IN THE ARAB. LACAPÈRE, p. 80.

Lacapère observed certain definite characteristics of form, color, and adenopathy, in the primary lesion among Arabs. The lesions were frequently irregular in outline, one being 0.025 cm. wide and 3 or 4 cm. long. The lesions were more frequently multiple than in the European. In the Arab the lesion is usually covered with a thick crust under which is a well of pus, giving the lesion a grayish yellow color. If a wet dressing is applied for several days the scab and pus disappears, it then assumes the characteristic red color. The enlarged inguinal glands frequently suppurate; this is due to an infection with the bacillus of Ducrèy. The author has, however, observed cases of suppurative adenitis accompanying simple chancre.

HOW SYPHILIS IS STERILIZED BY ARSPHENAMIN. CHANCRE REDUX AFTER ARSENICAL TREATMENT. BLUM and BRALEZ, p. 97.

This is a report of three cases with rapid recurrence of syphilitic lesions after indifferent arsenical therapy. Luargol and novarsenobenzol were the arsenical preparations used in two of the cases. The report is made from the service of Gaucher and reflects his well known views against the use of arsphenamin in syphilis.



*(Ibidem, 1918, 13, No. 4)*

SCLEROTIC SYPHILITIC MYOSITIS OF THE LONG MUSCLES.  
LEVY-FRANCKEL, p. 193.

The author reports three instances of the disease. In all three the thigh muscles were involved. The condition proved to be a diffuse sclerosis involving the entire muscle, with absence of necrosis or gummatous change. It occurred late in two cases, eighteen years in one, and twenty years in another. The third case appeared only three years after the primary lesion. Levy-Franckel found the lesion rare; it occurred only three times among 259 cases of tertiary syphilis observed over a period of one and one-half years. It was exceedingly rebellious to treatment.

MASKED SYPHILIS. DREYFUS, p. 199.

Dreyfus under this title reports the following interesting cases:

(a) Acute polyarticular rheumatism, with pleurisy and endocarditis, in a girl of 20. Intensive antirheumatic treatment gave no results. The Wassermann reaction in the blood, and serous fluid from the pleural cavity, was strongly positive. Spirochetes were found in the centrifugalized fluid from the pleural cavity. There was a complete cure after specific treatment.

(b) Varicose ulcers. A man, aged 66, with extensive ulcerations on both legs, of ten years' duration. These were unsuccessfully skin grafted. The multiplicity of the ulcers, absence of varicose veins in the right leg, enlargement of post-cervical glands, and positive Wassermann reaction, indicated the nature of the disease.

(c) Chronic articular rheumatism in a woman, aged 61, of ten years' duration, with tendency to deformation. Various baths, health resorts, roentgenotherapy, etc., were without result. The patient stated that the pain became aggravated at night. The Wassermann reaction was positive. There was immediate cure under specific treatment.

(d) Anal fissures in a girl of 23, without any of the stigmata of heredo-syphilis, other than a certain asymmetry of the face, and separation of the upper incisors. The patient had always been well, but since very early childhood had had extremely sensitive and painful anal fissures. The Wassermann reaction was positive. Immediate cure followed antisymphilitic treatment.

(e) Scrotal tongue and macroglossia. Heredo-symphilitic?

(f) Ozena and chronic gastritis in a young woman of 26, of years' duration. She was married four years, and had had no miscarriages or children. There was no history or evidence of former syphilis. A sister had typical Hutchinsonian teeth. The Wassermann reaction was positive in both cases. Under treatment the ozena (after the discharge of the sequestra), and the gastritis disappeared entirely. The father admitted that he had contracted syphilis years previously.

(g) Hypertrophic alcoholic cirrhosis of the liver (Hanot-Gilbert). The patient had been tapped six times; ten different medical advisers had given a fatal prognosis. A seventh paracentesis was made, and 20 liters of fluid were removed. The patient was apparently moribund, with typical jaundiced facies, and presented for examination a greatly enlarged liver, covered with tumors of variable size and hardness. He complained of intense and persistent nocturnal headache. The patient freely admitted alcoholic indulgence, but denied venereal infection. The Wassermann reaction being positive, he was reintegrated, and then remembered having had a small painless lesion on the lower lip twenty years previously. Cervical adenopathy and pharyngitis were immediate sequelae. He had never had any eruption on the body. Syphilitic treatment brought about complete recovery.

REFLECTIONS, PROPHYLACTIC AND MEDICAL. CARLE, p. 216.

## ACTAS DERMO-SIFILOGRAFICAS

*(June-July, 1917, 9, No. 5)*

Abstracted by V. PARDO, M.D.

## ULCUS MOLLE SERPIGINOSUM. J. DE AZUA, p. 221.

Azua describes five cases of this rare form of ulcer molle which he has seen among 14,776 cases of chancre. In this article the author makes a very complete clinical study of this form of venereal sore which he defines as "an ulcerating lesion starting from a common soft chancre or its bubo, that heals up on one side while it spreads on the other, involving extensive areas of the skin and following a long course." The differential diagnosis must be made with tertiary syphilis, venereal granuloma and tuberculosis. Some of the author's cases resemble very closely those of venereal granuloma, and he thinks that many cases of this latter disease are only examples of ulcer molle serpiginosum; the bacilli of Dugrèy are found in most cases, but they may disappear when secondary infection takes place. The ulcerative lesions frequently involve both groins, the perineum, the penis, the scrotum, and in one of his cases the skin of the left thigh was destroyed to a great extent.

The treatment consists in cauterizing the advancing borders, opening and cleaning the small pus collections and applying compresses of a hot solution—1:2,000—of potassium permanganate. The Wassermann test is always negative in these cases, and arsphenamin has no effect on the lesions. Iodid of potassium, highly extolled by McDonagh, gave no results in Azua's cases.

## TREATMENT OF SKIN DISEASES BY ULTRAVIOLET RAYS. A. S. DE AJA, p. 267.

Ultraviolet rays are playing a very important rôle in dermatology. The author reports one case of acne necrotica, one of ringworm of the scalp, three of lupus erythematosus and several others of acne vulgaris, dermatitis seborrheica and psoriasis, cured by this procedure. De Aja uses the Nagelschmidt quartz lamp.

## PITYRIASIS RUBRA CHRONICA BENIGNA. A. S. DE AJA AND F. PORTILLA, p. 275.

Case report.

*(Ibidem, February-March, 1918, 10, No. 3)*

## SYPHILITIC DIABETES. J. S. COVISA, p. 129.

The author reports a case of diabetes insipidus of syphilitic origin. The patient, a man, aged 37, was passing 5,500 gm. of urine in twenty-four hours; with specific treatment the quantity went down to the normal in a few days. Cases of this nature have been described by Lang, Nonne and Oppenheim, and are due to specific lesions (gummas) of the hypophysis; Covisa describes in his case an associated slight acromegaly which supports his view that the polyuria was produced by lesions in the hypophysis.

## ACCIDENT DURING INTRAVENOUS TREATMENT. J. F. PORTILLA, p. 134.

The author reports an accident perhaps unique in the history of intravenous therapy. The needle with which he was giving an intravenous injection of arsphenamin broke and was carried by the blood stream into the vein, wherefrom it was removed later by surgical means.

## SYPHILITIC REINFECTION. P. VILANOVA, p. 139.

The writer's patient had a hard chancre in June, 1915; he was treated with five injections of galyol and several of gray oil; in December, 1915, the Wassermann test was negative. Two years later the patient acquired another chancre and secondaries developed. Vilanova reports the case as one of typical syphilitic reinfection.

## SYPHILITIC CHANCRE OF THE TONGUE. J. S. GRADO, p. 141.

Case report.

## HERPES ZOSTER. J. F. PORTILLA, p. 143.

Report of two cases with serious systemic disturbances.

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JOURNAL OF EXPERIMENTAL MEDICINE

(November, 1917, 26, No. 5)

Abstracted by R. C. JAMIESON, M.D.

## BACTERICIDAL FLUORESCENCE EXCITED BY X-RAYS. H. S. NEWCOMER, p. 657.

The conclusions of the author are as follows: Roentgen-ray fluorescence may offer possibilities in the development of physiochemical therapy and his experiments would demonstrate that under certain conditions the roentgen rays would have a strong bactericidal effect. The roentgen rays alone have a partial bactericidal action on water suspensions of typhoid bacilli.

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AMERICAN JOURNAL OF THE MEDICAL SCIENCES

(May, 1918, 155, No. 5)

Abstracted by R. C. JAMIESON, M.D.

## CARDIAC SYPHILIS. W. C. MOORE, p. 660.

Moore thinks that the heart is often affected in syphilis, possibly even more than the aorta, the organ being involved in both secondary and tertiary syphilis, having the lesion most often in the myocardium, but it may be in the epicardium or endocardium. These lesions with symptoms may be found early in the course of the disease, even as early as the early secondary roseola.

He does not look for a cure of cardiac syphilis in old cases, but symptoms can be ameliorated by proper treatment which he believes to be arsphenamin (salvarsan) and mercury used judiciously and persistently.

## GUMMOUS SYPHILIS OF THE THYROID GLAND. FRANCIS E. SENEAR, p. 691.

This case of syphilis of the thyroid is reported on account of the rarity of this condition. The lesion began as a swelling over the upper part of the sternum, nonpainful, and was not attached to the skin. This swelling was later struck and then ulcerated. A large necrotic mass was curetted, leaving an indo-

lent ulcer. Other swellings appeared later around the sternoclavicular articulations, and at the time of admission to the hospital the enlarged left lobe of the thyroid could be reached by a probe from one of the ulcers. The thyroid swelling was about the size of a hen's egg, of a rubbery consistency and painless. The Wassermann reaction was ++++. Improvement followed immediately after arsphenamin injections. The article also has a review of other reported cases of thyroid syphilis.

(*Ibidem*, July, 1918, 156, No. 1)

THE CHEMOTHERAPY OF LEPROSY AND TUBERCULOSIS, T. SUGAI, p. 30.

Potassium cuprocyanid was the drug used in this work, and consists of two parts of potassium cyanid and one part of cuprous cyanid. It was used in aqueous solution of 0.1 to 1 per cent., an injection being given every ten days, using 0.25 to 0.3 mg. per kilogram of body weight.

The results of from one to three injections were a softening of the nodes followed by diminution in size and absorption. The ulcerations healed and the sensory disturbances later improved. Of thirty-six cases reported, seventeen had a diminution or disappearance of the nodes, two had ulcerations heal, two had improved vision, four had a temporary increase in the size of the nodes, while eleven showed no change in symptoms. Continued injections are recommended. After several injections, necrotic foci appeared in the nodes, in many places with giant cells at the periphery. In places leprosy bacilli had collected, while their number was usually greatly reduced.

The author thinks that a cure might be effected if the treatment were continued for six months to a year.

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ARCHIVES OF INTERNAL MEDICINE

(August, 1918, 20, No. 2)

Abstracted by R. C. JAMIESON, M.D.

THE NITRITOID CRISES AFTER ARSPHENAMIN INJECTIONS. LOUIS BERMAN, p. 217.

Berman reviews the literature on the subject of reactions following arsphenamin injections and states his experiments performed to explain the phenomenon.

He took from a series of 300 injections eleven patients who had had reactions following treatment and prepared serum from their blood as well as serum from the blood of normal individuals. Arsphenamin prepared in the usual manner produced no or very slight opalescent precipitate when added to normal serums. However, when added to the serums of those who had reactions it produced a heavy whitish yellow precipitate.

A test performed in this manner would enable one to determine whether any given patient would react or not. A prophylactic dose of adrenalin seemed to prevent the reaction if given before the treatment and shortened it if given after the onset of symptoms. Blood from two patients showed an increased protein content, and he advances the theory "that the increased protein content of the blood in certain syphilitics may favor precipitation *in vivo*, even of properly alkalized arsphenamin."



## JOURNAL OF TROPICAL MEDICINE AND HYGIENE

(Feb. 1, 1918, 21, No. 3)

Abstracted by R. C. JAMIESON, M.D.

## A CASE OF LARBISH OR OERBISS OBSERVED IN NORTHERN NIGERIA. J. W. S. MACFIE, p. 25.

Description of a lesion on the foot which is clinically very similar to creeping eruption. On examination of the track at various points a seropurulent fluid was found containing leukocytes, epithelial scales and bacteria, but no microscopic or other parasites. No cause has as yet been found for the disease.

(Ibidem, March 1, 1918, 21, No. 5)

## TINEA IMBRICATA IN SOUTH AFRICA. A. PIJPER, p. 45.

The author calls attention to the fact that this disease has been observed in nearly all parts of the world except Africa, and describes a case of the disease. He thinks it is not frequent in Africa, and believes that a certain condition of the skin is necessary for infection to occur. The habit of some natives of oiling the body may be regarded as sufficient to prevent the infection with the possibility that climatic conditions may play some part in the etiology. He describes in detail the growth of the parasite on various culture mediums.

(Ibidem, May 15, 1918, 21, No. 10)

## SUDANESE EXAMPLES OF TWO COMMON HYPERKERATOSES.

A. J. CHALMERS AND ARTHUR INNES, p. 105.

The case described was that of a man of 45 who developed ichthyosis shortly after birth, the disease beginning as reddened patches which later became hyperkeratoses and developed into ichthyosis. From the shape of the lesions he called it ichthyosis serpentina, but from the pathologic changes seen in section it appears as ichthyosis nitida.

Thyroid extract was used without result. He thinks this type links together the nitida and serpentina types, although there is really only one variety of the disease.

(Ibidem, June 15, 1918, 21, No. 12)

## THE CLASSIFICATION OF THE MYCETOMAS. A. J. CHALMERS AND

R. G. ARCHIBALD, p. 121.

The writers give a complete classification of the mycetomas occurring in man which are known to them as follows:

Two general classifications: (1) the maduromycoses, and (2) the actinomycoses, of which the former is divided into (a) the black; (b) the white or yellow, and (c) the red maduromycoses. The black maduromycoses are further divided into the European, African, Asian and American—the first three being also a classification for the white or yellow maduromycoses. There is only one form of the red maduromycosis.

The actinomycoses are classified as black, white or yellow and red, according to the color of the grains, and by the causal organism.

(Ibidem, July 15, 1918, 21, No. 14)

## A SUDANESE STREPTOCOCCAL DERMATITES. A. J. CHALMERS AND R. G. ARCHIBALD, p. 141.

The case described had a lesion on the hand of three months' duration, the margin being composed of papillomatous growths which caused a resemblance to blastomycosis. The surface of the lesion was composed of ulcerated areas and deep fissures. It began as a small irritated spot, gradually enlarged, and

later gave the appearance of healing in some areas while spreading at the periphery.

A streptococcus was grown in pure culture and a streptococcus vaccine quickly cured the lesion.

#### CURABILITY OF MADURA FOOT. FREDERICK WOOLRABE, p. 146.

One case was treated and apparently cured by the following method: Immersion for several hours daily in a tincture of iodine solution—1:100; painting foot and lower leg with tincture of iodine every three days; painting ulcerated surfaces with liquor epispasticus weekly; occasional courses of potassium iodide; large doses of syrup of ferrous iodide and Easton's syrup.

(*Ibidem*, Aug. 1, 1918 21 No. 15)

#### PELLAGRA. A. VISIVILINGAM, p. 153.

The various etiologic factors are discussed by the author who believes that in his locality the deficiency theory and parasitic theory could both be causative in that the workmen have their vitality lowered by exposure and hard work, thus allowing infection to occur through the alimentary tract.

He thinks the disease could be prevented, at least alleviated or cured, by "a liberal diet consisting of fresh meat, milk and eggs, and removal from insanitary surroundings."

(*Ibidem*, Sept. 2, 1918, 21, No. 17)

#### PARAMYCETOMA. A. J. CHALMERS AND R. G. ARCHIBALD, p. 177.

They define this condition as a disease "which includes all growths and granulations producing enlargement, deformity and destruction in any part of the tissues of man, or animals, which are caused by the presence of fungi of any nature whatsoever, but in which grains are either absent or are so few in number and small in size as to escape observation without prolonged search."

As these growths comprise chronic ulcers which may be malignant or non-malignant, growths which may be carcinomas, epitheliomas or sarcomas, diagnosis must be made by means of the microscope. The disease may be recognized by finding peculiar eosinophil bodies, fungal filaments, minute grains or by the presence of many plasma cells with endarteritis or periarteritis; culture and animal experiments are sometimes of aid in establishing the diagnosis.

(*Ibidem*, Oct. 1, 1918, 21, No. 19)

#### NOTES ON MINOR CUTANEOUS AFFECTIONS IN THE ANGLO-EGYPTIAN SUDAN. A. J. CHALMERS AND ALEXANDER MARSHALL, p. 197.

Onychomycosis due to epidermophyton cruris is discussed at length, also edema of the eyelids due to the bite of a small ant, streptococcal ulcers of the legs healed with vaccines, and cheilitis.

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## JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

(June 1, 1918, 70, No. 22)

Abstracted by OSCAR L. LEVIN, M.D.

#### SKIN GRAFTING. J. C. MASSON, p. 1581.

Of the three types of skin grafts—the autoplasmic, the isoplasmic and the zooplasmic—the autoplasmic is preferred. Previous to operating, the same precautions should be maintained to guard against syphilis and insure good results. The raw surface should be healthy and free of infection. In chronic

ulcers, the circulation of the part should be improved and healing stimulated by the removal of unhealthy granulations either by curetting or by excision of the ulcer. Grafts may be placed immediately, but in most cases it is advisable to apply hot saline or boracic acid wet dressings or an 8 per cent. scarlet red ointment to the raw surface until a healthy condition of the granulating surface is obtained and small pellicles of new skin appear along the edge. In more recent cases the best plan is to apply hot saline, neutral solution of chlorinated soda or dichloramin-T until the wound is made sterile, as shown by smears on three consecutive days.

The Wolfe graft gives the most normal and functioning skin, but has the disadvantage that it is not so apt to take as is either the Reverdin or Thiersch graft. The Reverdin is probably the best type of graft for use in the ordinary case in which the closure of the wound is the all-important consideration.

The type of dressing is of importance and varies with the nature of the case. If the wound is completely covered with Thiersch grafts, the open method of treatment, that of protecting the surface with a wire screen, is probably the best. When this method is employed, crusts or thick secretions should be removed and a 4 per cent. solution of dichloramin-T or neutral solution of chlorinated soda applied. If the wound is only partially covered with grafts, the most satisfactory dressing is first to cover the raw surface and grafts with open-mesh net that has been previously impregnated with paraffin, and then to apply a wet dressing.

THE VALUE OF THE WASSERMANN REACTION. JOHN H. LARKIN,  
I. J. LEVY AND JOHN A. FORDYCE, p. 1589.

This article is a reply to one published by Symmers, Darlington and Bittman in THE JOURNAL for Feb. 2, 1918, in which they attempted to correlate with their necropsy findings the results of the Wassermann reaction taken during life. The impression made on the reader of that article is that the Wassermann reaction is not dependable in the diagnosis of syphilitic affections and of little value as an indication of the cure of the individual affected with syphilis.

In their reply Larkin, Levy and Fordyce make the following summary: "The term 'Wassermann reaction' includes several methods of serologic procedure. An accurate interpretation of each method is essential in arriving at a proper diagnosis.

"A positive reaction is the most constant symptom of syphilis.

"The value of the reaction in diagnosing undoubted syphilis is shown by the fact that:

"1. The reaction is positive in practically 100 per cent. of the cases of florid syphilis.

"2. In active tertiary syphilis of the skin and bones the reaction is positive in about 94 per cent. of the cases.

"3. In syphilis of the central nervous system, cognizance must be taken of the reaction in both blood and spinal fluid. The blood is positive in about 80 per cent. of the cases.

"4. In a pathologic study, the Wassermann reaction (alcoholic antigen, warm fixation) was positive in 94 per cent. of cases of syphilitic aortitis.

"As a means of corroborating syphilitic infection, the Wassermann test is at least 90 per cent. dependable, as shown in a series of positive Wassermann reactions in which 90 per cent. could be accounted for by syphilitic changes in the aorta alone.

"The value of a negative reaction has been studied and its reliability confirmed by the negative reactions obtained in nonsyphilitic affections of the skin. In a series of necropsies in which it was demonstrated pathologically that the aorta was free from syphilitic disease, negative reactions were obtained in 91 per cent.



"The conclusions of Dr. Symmers and his co-workers are shown to be fallacious and a misrepresentation of the facts owing to:

"1. The apparent disregard of the different results obtained by various serologic methods and the employment of a questionable technic.

"2. The careless survey of pathologic material."

*(Ibidem, June 8, 1918, 70, No. 23)*

A STUDY OF FOUR HUNDRED POSTMORTEM WASSERMANN REACTIONS. STUART GRAVES, p. 23.

As a result of this investigation the author concludes that the Wassermann reaction made on postmortem blood is practically as reliable a test for syphilis as when done antemortem, and is of great value in pathologic anatomy and in medicolegal cases.

*(Ibidem, Sept. 28, 1918, 71, No. 13)*

HANDLING OF THE VENEREAL PROBLEM IN UNITED STATES ARMY IN THE PRESENT CRISIS. WILLIAM ALLEN PUSEY, p. 1017.

As a result of the measures which have been adopted to eliminate venereal diseases from the United States Army, Pusey states that the incidence of these diseases is less than ninety per thousand, which has been accepted as the standard mean average rate.

The methods of attack on the venereal diseases have been grouped into four classes: (a) Social measures to diminish sexual temptation; (b) education in regard to venereal diseases; (c) prophylactic measures against venereal diseases, and (d) medical care.

NEUROSYPHILIS. ITS DIAGNOSIS AND ECONOMIC IMPORTANCE. JOHN A. FORDYCE, p. 1023.

Fordyce is of the opinion that careful examination with modern diagnostic methods would show at least 20 per cent. of syphilitics with nervous involvement. To greatly limit the number of neurosyphilitics in the future, it is suggested that the public be educated to the far-reaching results of the disease and encouraged in sexual continence; that the individual be instructed how best to escape infection after exposure; that the physician should employ the newer methods of diagnosis and treatment.

It is urged that all institutions and physicians should carefully preserve all records, serologic and clinical, and compare them with those obtained in future examinations. In this way we may be able later to answer such questions as to a cure, recurrences and neurosyphilis.

SYPHILIS AND VENEREAL DISEASES AS A PUBLIC HEALTH PROBLEM. G. H. IRVINE, p. 1029.

The program of attack on venereal diseases as put into force by the War Department has been proved so successful that our armies now have the lowest venereal disease rate of any army in the field. It is now proposed that the same program should be followed for combating venereal diseases among civilians.

There is need for the federal government to come to the state's aid in the way of finances just as England has done, and such legislation is now before Congress.

Educational work, particularly in the medical schools, plays an important rôle in the problems of prostitution and venereal diseases. Irvine repeats, what has often been stated by other writers, that there is a lack of teaching of these subjects in the medical schools.

Venereal diseases depend on sex immorality for their spread; and until we do away entirely with immoral sexual relations, we cannot do away entirely with these diseases.



(*Ibidem*, Oct. 19, 1918, 71, No. 16)

RELATIONSHIP OF FOCAL INFECTIONS TO CERTAIN DERMATOSES: FURTHER OBSERVATIONS. M. L. RAVITCH AND S. A. STEINBERG, p. 1273.

The writers base their conclusions, as to the rôle played by focal infections in the etiology of the dermatoses, on personal work covering several years and a careful study of the work of others. They conclude that focal infections are causative of a small percentage of such dermatoses such as erythemas, urticarias, purpuras and perhaps herpes zoster. Some cases of the dermatoses just mentioned which have lesions identical with the conditions referred to, are not due directly or indirectly to focal infections. There is no relationship between focal infection and such dermatoses as psoriasis, lichen planus, pernio, acne, vitiligo, scleroderma and alopecia areata.

THE ETIOLOGY OF LICHEN PLANUS. ERNEST DWIGHT CHIPMAN, p. 1276.

Eight cases of lichen planus are cited in which, the writer states, tooth infection was the only constant factor which seemed to be causative of the disease.

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## REPORTS AND COLLECTED STUDIES FROM THE INSTITUTE OF TROPICAL MEDICINE AND HYGIENE OF PORTO RICO

(1913-1917, 1.)

Abstracted by OSCAR L. LEVIN, M.D.

SOME OBSERVATIONS ON THE SKIN DISEASES OF PORTO RICO. W. W. KING, p. 203.

This paper is reprinted from THE JOURNAL OF CUTANEOUS DISEASES, 35, No. 6, August, 1917.

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## JAPANISCHE ZEITSCHRIFT FÜR DERMATOLOGIE UND UROLOGIE

(October, 1917, 17, No. 10)

Abstracted by OSCAR L. LEVIN, M.D.

THE TREATMENT OF SYPHILIS AND THE WASSERMANN REACTION. K. MIYAZAKI, p. 821.

(*Ibidem*, November, 1917, 17, No. 11)

A CASE OF PERFORATED ULCER OF THE FOOT WITH DIABETES. K. KOHDA, p. 933.

(*Ibidem*, December, 1917, 17, No. 12)

BACTERIOLOGIC AND SEROLOGIC STUDY OF ACNE VULGARIS. Y. SAKAGUCHI, p. 2.

SYMMETRICAL HYPERKERATOSIS AND HEMATURIA AS A COMPLICATION OF GONORRHEA. S. HANAWA, p. 22.

*(Ibidem, January, 1918, 18, No. 1)*

THE NATURE OF DYSIDROSIS. M. OTA, p. 2.

Nine out of ten cultures on which hairs from cases of dysidrosis had been planted showed positive ringworm growths. As a result of these experiments the writer concludes that dysidrosis is a parasitic vegetating herpes and should be considered a mycotic dermatosis and not classified under eczema.

*(Ibidem, February, 1918, 18, No. 2)*

RESULTS OF ANTISYPHILITIC TREATMENT IN CEREBROSPINAL SYPHILIS. U. TSUCHIDA, p. 95.

A CASE OF ANAPHYLAXIS FOLLOWING THE INJECTION OF JAPANESE SALVARSAN. T. URAKAMI, p. 128.

*(Ibidem, March, 1918, 19, No. 3)*

SPECIAL TYPES OF HYPERPIGMENTATION. K. SAKURANE, p. 216.

## VIRGINIA MEDICAL MONTHLY

*(May, 1918, 45, No. 2)*

Abstracted by OSCAR L. LEVIN, M.D.

INTRASPINOUS SALVARSAN. BEVERLY R. TUCKER, p. 36.

The writer asserts that for cases of resistant central nervous syphilis, intraspinous treatment, when judiciously employed, offers far more than when arsphenamin (salvarsan) or mercury is administered intravenously. Small doses and perfect asepsis do away with any danger.

Six cases are described in which intraspinous treatment produced clinical and biologic improvement.

## UROLOGIC AND CUTANEOUS REVIEW

*(April, 1918, 22, No. 4)*

Abstracted by OSCAR L. LEVIN, M.D.

THE PATHOLOGY OF THE SPINAL FLUID IN SYPHILIS. LEON H. CORNWALL, p. 186.

The importance of early examination of the spinal fluid in every case of syphilis is emphasized.

Intraspinal injections of arsphenamin (salvarsan) should be given in every case, when after six months of intensive intravenous treatment the spinal fluid still shows pathologic changes.

THE SIGNIFICANCE OF HISTOPATHOLOGY IN THE UNDERSTANDING OF DERMATOSES. WALTER JAMES HEIMANN, p. 190.

From the standpoint of aid in diagnosis the histopathology of the dermatoses has a limited field and the number of pure dermatoses possessing a characteristic minute structure are few. By means of the microscope it is possible to make group diagnosis, but it is impossible to differentiate the various members of a class. The study of this subject is mainly a matter of intellectual self-development and the proper interpretation aids one in therapy which is the main factor in medicine.

(*Ibidem*, June, 1918, 22, No. 6)

ON A PECULIAR FORM OF SYMMETRIC HYPERKERATOSIS OF  
THE HANDS AND FEET. SHIN-ICHI MATSUMATO, p. 318.

Six cases are described of a symmetric eruption which appears suddenly and attacks the palms, soles and extensor surfaces of the elbows and knees as the favorite sites. The three cardinal features are: erythrodermia; hyperkeratosis, and pityriasis. Several similar cases have been observed in clinics of Japan and the author is of the opinion that these cases represent a distinct clinical entity differing from other hyperkeratotic eruptions.

VACCINE THERAPY IN THE TREATMENT OF ACNE. JACOB DINER,  
p. 325.

The writer states that of all skin diseases acne stands out as the one most readily responding to vaccine treatment. The autogenous vaccine is preferred and an initial dose of two million bacilli should be followed at maximum intervals of seven days in increasing doses. Each succeeding dose should be increased by an amount equal to 50 per cent. of the initial dose until a dose corresponding to five times the initial dose is reached, which is continued for not less than ten injections and twenty in persistent cases.

# THE JOURNAL OF CUTANEOUS DISEASES

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## Original Communications

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### PEMPHIGUS IN AN ORANG-UTAN INFESTED WITH STRONGYLOIDES (INTESTINALIS?) AND DYING FROM ADVANCED TUBERCULOSIS \*

FRED D. WEIDMAN, M.D.

PHILADELPHIA

This animal (*Simia satyrus*), a female, together with its male companion, was received in the garden when about 2 years old. The first sign of disease was noticed in March, 1917, when they had been in the garden about three years, and consisted, according to the keeper, of blisters mostly over the abdomen. At this time she was seen by Drs. Charles N. Davis and Herbert Fox, when the diagnosis of pemphigus was given and Fowler's solution prescribed. Dr. Fox found eosinophilic leukocytes predominating in the turbid blister fluid at this time.

In December, 1917, I saw the animal for the first time in an outbreak. Vesicles and blebs up to the size of a bean were distributed thickly over the extensor surfaces of the arms and forearms and over the dorsum of the hand; and sparingly over the corresponding parts of the lower extremities and over the trunk and neck. The flexures of the elbows and the face were free. A particularly large bulla was present in the pinna of the ear and it was from this that the fluid used in the laboratory examination was obtained. The vesicles and blebs were always tense, the smaller ones containing clear fluid—the larger turbid or faintly hemorrhagic. They often occurred in groups; the keeper reported that the monkey never behaved as though they itched or that the disease had any effect of any sort on her, constitutionally. She never showed any lesions on the oral mucosa, which was very easily examined on account of the gentleness of this individual.

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\* Received for publication Dec. 1, 1918.

\* From the Laboratory of Comparative Pathology of the Philadelphia Zoological Garden and the Laboratory of Dermatological Research in the University of Pennsylvania.



This attack lasted several weeks, the blebs drying up into crusts and leaving the skin harsh and stiff. Following this she had several more attacks, the history being much the same as in human cases of pemphigus. It is thought that altogether she had a dozen exacerbations, with incomplete remissions, when the lesions were not quite so thick.

#### MICROSCOPIC EXAMINATION

The fluid from the bleb selected was thick, ran out at one puncture (the bleb was unilocular), clear toward the summit but turbid at the



Fig. 1.—General view of orang showing the lesions on the arm and abdomen.

base; and this turbidity was unsuspected from simple inspection until the fluid was withdrawn. Fixed moist with warm sublimate-alcohol and stained by Giemsa without drying at any stage (for protozoa) it shows few red blood cells and many leukocytes.

There are two classes of eosinophils in this beast's serum: (1) a larger, coarsely granular, intensely pink form corresponding to the human eosinophil, and (2) a smaller form with very few faint pink granules. These latter might easily be the analogues of the human

neutrophil, its granules staining pink instead of violet as the result of some chemical difference peculiar to this species of animal. The granules of the first form are perfectly spherical, fairly large, but not nearly as big as those seen in birds and horses. The nucleus is pale blue and the cell outline ragged.

In the second form the granules are irregular in form, the nucleus has about the same characteristics as the preceding, and the cell outline is indistinct. A frank neutrophilic or basophilic leukocyte has not once been seen.

Very small numbers of pigmented mononuclear cells are also noted, which are probably degenerate rete cells which have been shed off in the serum. The pigment granules are coarse, bronze black and sometimes sparingly and sometimes closely packed into the cells. Very

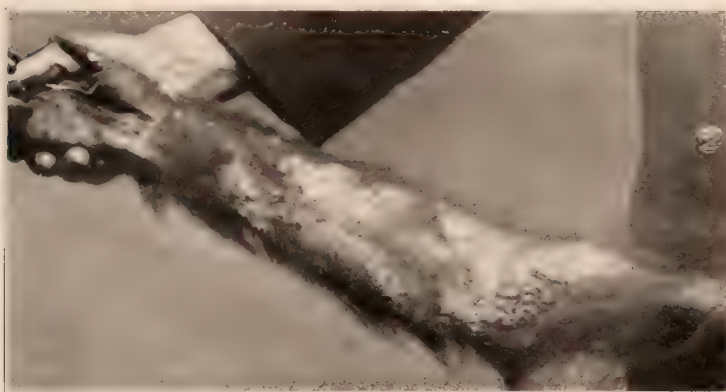


Fig. 2.—Grouping of the lesions on the arm.

small numbers of similar colored but very fine granules are also frequently found in the finely granular eosinophils; but not in the coarser kind.

In one instance only, a protozoa-like group was found consisting of four minute spherules with a solid, almost black, nucleus. Large coccoid bodies were also occasionally found in pairs within eosinophils of both forms; and in at least one instance, two were placed on opposite sides of a pale blue sphere.

Differential count of the two "forms" of eosinophils gives the following result: Coarsely granular, 90 per cent.; finely granular, 10 per cent. The special minute bodies suggesting protozoa are too few and not characteristic enough to justify any definite conclusions as to their identity, but it is felt that they are degeneration products and not parasites.

## PRESENCE OF INTESTINAL OVA

The feces of her cage-mate were negative for any animal parasites, but her own, after a purge, showed ova which were sometimes segmented and sometimes contained a larva. A second specimen without a purge showed great numbers of actively motile larvae, few ova and a single mature female of the nonparasitic generation. This is very remarkable, this form usually developing in soil some time after defection, and indicates very rapid development in the intestine. The

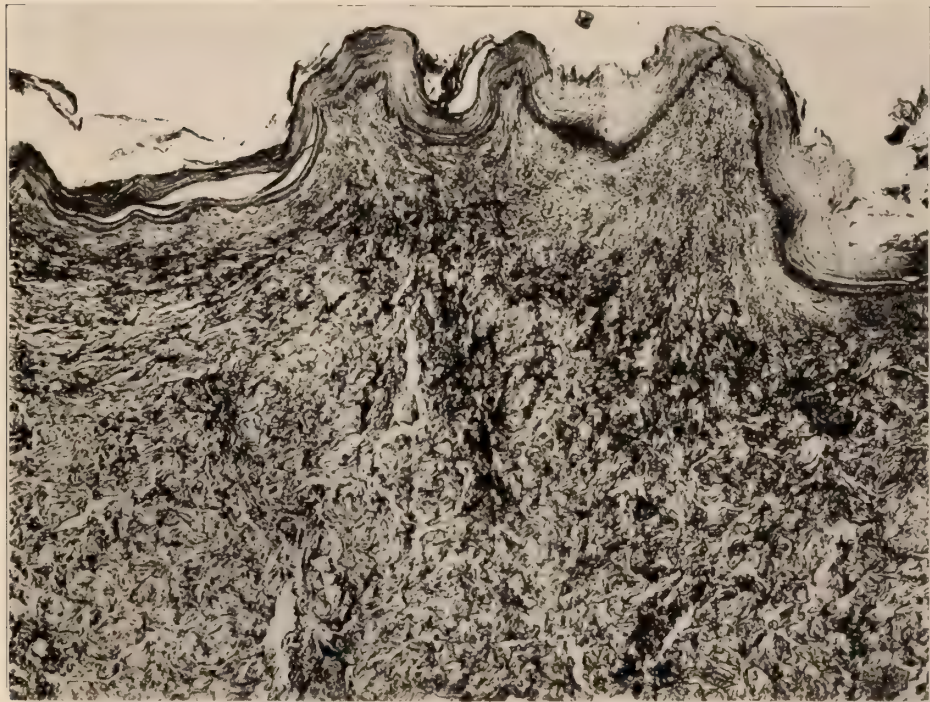


Fig. 3.—Photomicrograph of a scar. Note rich pigmentation (doubtless normal) just below pars papillaris.

blood was not examined. The urine was normal according to human standards as to the common physical and microscopic characteristics, and contained no albumen or sugar.

Two chimpanzees in nearby cages were also tested for the worms. One (Mimi) showed none. The other (Johanna) furnished ova like those from the orang (Silvia). Neither of these chimpanzees have ever shown any cutaneous disturbances.

The female orang (Silvia), died in August, 1918, during one of the remissions; the most complete, in fact, she had ever shown. Her



skin felt tense, but showed only a few small, thin, crumbly, scarcely adherent crusts to indicate the positions of earlier blebs. Her organs (lungs, liver, spleen and lymph glands) showed an advanced caseous tuberculosis.

#### HISTOPATHOLOGY

Microscopic sections of the skin from the crusted parts show a most striking pigmentation of the corial cells, which is doubtless normal. The pigmentation is much more marked toward the surface, the deeper parts of the corium lacking it entirely, and appearing only occasionally and sparingly in the newly formed fibrous tissue in the center of the section. Examined more closely, the cells are found to be the ordinary cells which are applied to the collagenous bundles. The extent of their cytoplasm, being so closely packed with extremely fine bronze-black pigment particles, is made much clearer than in the usual preparations; and their cytoplasm can now be traced for surprising distances along the course of a given bundle. The nucleus is occasionally recognizable, but generally completely obscured by the pigment particles.

From the pathologic standpoint there are two microscopic changes: (1) a hyperkeratosis in the center of the section, and (2) a heavy layer of rather old granulation tissue in the *pars papillaris* immediately below. The nuclei of the granulation tissue are closely placed, rather narrow, and separated by definite, fairly dense fibrillae and few capillaries. An isolated clump of degenerated leukocytes and granular detritus is all there is left to represent the crust on the surface.

#### COMMENT

The case, then, presents nothing unusual in the symptomatology of pemphigus, but is made reportable because it has occurred in a lower animal, and because it was associated with intestinal worms and terminated by tuberculosis. The last two features are here recorded for what they are worth without speculation by the writer. Future findings only will show whether they played any part in the etiology of the disease; but knowing what large numbers of pemphigus-free monkeys have died in the garden of tuberculosis, and that on the other hand, worm-infested Johanna has never shown cutaneous disturbances of any sort, we can state that their effect, if any, is only on especially susceptible individuals with lesions or functions disturbed in a way more or less nicely adapted and within narrower or broader bounds to produce the special lesion in the skin.



## KERATOLYSIS EXFOLIATIVA \*

GROVER W. WENDE, M.D.

BUFFALO, N. Y.

The object of this paper is to call attention to a benign, noninflammatory, not very rare disturbance of the skin to which I have ascribed the name of keratolysis exfoliativa. It is characterized by circumscribed exfoliating patches of the superficial epidermis, often more or less symmetrically distributed on the palms of the hands, less often on the soles of the feet and occasionally on the dorsum of the hands and feet as well as on the arms and legs.

The condition is without doubt familiar to the reader; it is associated often with chronic eczema and eczema seborrheicum, and is frequently taken for one of the manifestations of these diseases. Sometimes it is seen in connection with hyperidrosis, dysidrosis and other conditions involving the palms and soles. Of much interest is its occurrence in cases of eczematoid ringworm of the extremities.

The descriptive terms applied to skin affections of these locations are elastic and indicate widely different conditions. On careful examination the circumscribed scaly patches in the foregoing description can plainly be distinguished as independent of the active processes which determine the nomenclature of other affections. Some years ago the author's attention was directed to this condition, and from time to time typical examples were observed in which the disturbance developed independently and without association with any other disease. The two cases here reported to illustrate this condition of the skin came under observation in the summer of 1918. A striking feature is the remarkable similarity of the findings in all cases so that when once attention is directed to the condition and the picture presented is studied, little difficulty obtains in subsequent recognition of individuality in the eruption, no matter with what other disturbances it may be associated.

### REPORT OF CASES

CASE 1.—*History*.—Mrs. J. W., who first came under observation Aug. 1, 1918, is a healthy looking woman who leads a quite sedentary life; her hands are exposed to no external irritation of any kind other than that of bathing. There is nothing in the history of the patient either near or remote that would have a bearing on the skin condition. The patient gives the following report: "Without any apparent reason the inside of my hands—both the fingers and palms, have been peeling off in good sized flakes. There has been no inflammation, no pain nor itching of any kind. In both attacks the peeling began in the palms first and then extended to the insides of the fingers,

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\* Received for publication Nov. 20, 1918.



Fig. 1.—Keratolysis exfoliativa. Peeling began in the palms of the hands and then extended to the insides of the fingers, often running around to the outside of the finger. Inflammation, pain or itching is entirely absent.



sometimes running around to the outside of the finger. The first attack came in the spring while living on the Canadian lake shore; at first I thought the change in water had something to do with it. In town I take at least one tub bath a day, while in the country, as all the water is at a premium, having to be pumped, full baths were necessarily restricted; therefore, I washed my hands very much oftener than my body, and for that reason accounted for the fact that only my hands were affected. The second attack, however, which occurred two months after the first, followed a swimming party on the same lake shore, but as at this time also my hands only were affected, I can hardly attribute the trouble to the water. My skin always has been more or less dry so I use cold cream on my face every night, but I do not oil my hands; perhaps that may account for the condition."

*Examination.*—Situated symmetrically on the palms of both hands and invading the edges of the fingers were areas of exfoliation of the epidermis that varied in size from a pinhead to a 10-cent piece, some being even larger. The smaller lesions presented a broken up, ragged, whitish appearance. The larger areas presented clear centers, with tags of partly detached epidermis, flakelike, papery scales with edges fringed. The flakes had a stuck-on appearance and varied in size and shape. The denuded skin looked normal and showed no evidence of inflammation.

Following the use of soothing applications the exfoliation gradually subsided in about three weeks, and the skin became to all appearances healthy.

*CASE 2.—History.*—Henry P., aged 32, came under observation Aug. 20, 1918, with the second attack for the year, and with a history of from two to four attacks a year, for the past twelve years. He apparently enjoys the best of health; he gave no history that would in any way bear on the attacks. Special inquiry was made to determine the use of soap, of other local applications, or of undue exposures, any of which might injure the skin. He stated that the condition was limited always to the hands and feet, and with few exceptions to the palmar and plantar surfaces only; that never had the condition extended beyond the plantar surface, although on the hands it sometimes attacked the border and also the fingers. He was positive that there had never been redness or inflammatory alteration of the skin; his attention had never been drawn to the eruption by any subjective symptoms, as he had had no discomfort, pain or itching; the only annoyance was the appearance.

*Examination.*—The eruption present was limited to the palms of the hands and to the soles of the feet; it extended around to the sides of the fingers; careful examination showed well defined, desquamating areas, varying from a mere whitening of the epidermis to a complete separation of circular areas an inch in breadth. There appeared to be different stages in the development of the exfoliating areas. On picking up the partly detached shreds of epidermis at their margins, they could be peeled off in small sheets without pain or inconvenience to the patient. The surface beneath was normally red, even, smooth, soft, and with no appearance of protruding papillae. The large circular areas presented a broken up, ragged appearance covered with all sizes of attached but loosened epidermis.

Soothing applications over a period of six weeks failed to influence the tendency to form new desquamating areas. At this time a moderate exposure to the roentgen ray caused an apparently complete return to normal skin conditions shortly after the second treatment.

#### HISTOLOGY

A small portion of the margin of a scaly patch from the palm of the hand was prepared for examination. Under the microscope, in the corium was seen what might be called a very slight infiltration around



the vessels of the papillary layer; otherwise there was nothing abnormal. The epidermis showed some widening of the prickle cell layer with slight edema of the prickle cells. In the horny layer the changes were not marked; the nuclei were present. There was a tendency to incomplete formation of keratin and the cells were loosely united; there were no leukocytes.

Microscopic examination of five cases for the *Epidermophyton inguinale* and for other allied parasites yielded only negative results. Bacteriologic examinations also were made with like results.

#### CONCLUSIONS

1. The most characteristic features of the invasion of this condition are that it is confined to the palms of the hands and soles of the feet, without any noticeable evidence of inflammatory change; that the desquamation begins as a minute spot and gradually extends peripherally, producing a white epidermis which is soon detached; that there is a tendency to relapse, recurrence taking place at intervals of a few months to years.

2. The chief difficulty in diagnosis is to differentiate it from the results of slight injuries to the epidermis, such as come from the application of strong alkali soap, exposure to the sun, the handling of hard substances, or prolonged bathing. All these were carefully investigated in the cases seen.

3. The desquamating epidermis does not differ from that of scarlatina or of pityriasis rubra; the history of an inflammatory condition of the skin, however, would make it an easy matter to separate them from keratolysis exfoliativa. The association of similar desquamation with other diseases of the skin causes some difficulty in diagnosing this condition as a separate and distinct disease. The number of instances of the occurrence of desquamation associated with inflammatory skin diseases, which subsequently were followed by exfoliation without such association, would make one incline to the belief that any inflammatory condition of the skin predisposes to the development of keratolysis exfoliativa.

4. This condition can, however, also arise *de novo*, as shown in the cases herewith reported.

5. The etiology of this condition is obscure; it is often intimately associated with inflammatory diseases that are characterized by desquamation, and irritants often produce an exfoliation that very strongly resembles it.

## INFLUENZA ALOPECIA

M. J. MORRISSEY, M.D.

HARTFORD, CONN.

Alopecia diffusa as a sequel to acute febrile diseases is not an uncommon affection. Nor is it particularly worthy of special mention in medical literature, because we are all so familiar with its occurrence in typhoid fever, acute phthisis and other diseases.

But its great frequency as a sequel in the present epidemic of influenza commands special attention. It undoubtedly occurs more often proportionately than in previous epidemics of this disease. In fact, a diligent search of the literature does not reveal that this condition has been especially mentioned in former epidemics. The alopecia in all patients coming under my observation was of the diffuse type. It occurred in the majority of instances within two weeks after the subsidence of the fever, but in a few patients appeared as late as from four to six weeks.

### ASSOCIATED LOCAL SYMPTOMS

Concomitant with the alopecia and sometimes preceding it, patients have complained of a painful scalp, of such severity as would not permit combing the hair without considerable distress. The hair-falling occurs mostly on the vertex and parietal regions, but occasionally quite over the whole scalp. The vertex and parietal regions are most subject to seborrhea capitis and in nearly all cases of influenza alopecia there was pronounced seborrhea in those regions. Whether this scalp lesion existed in a severe form before, or was aggravated by influenza could not be determined, but it seems probable that seborrheic subjects are more prone to alopecia following the disease, or it may be that they are the only patients in whom it occurs. In a few cases there were patches resembling the moth-eaten patches of ringworm. These were superimposed on the general alopecia, but it is probable they had no other significance than that they were sites of more pronounced seborrhea. Most of the cases occurred in young women, although a few men were also affected.

### EXTENSIVE LOSS OF HAIR QUITE COMMON

The amount of hair loss was great in nearly all instances. One young lady saved all of the defluvium which had fallen out the first week, and it nearly filled a shoe box, even when fairly well pressed down. From reports of other patients this amount was not unusual.

Particular mention is made of the amount, with the nearest possible accuracy, for I know of no other symptom so apt to be exaggerated, except nose-bleed. Some of the patients had been quite ill and the infection was complicated with pneumonia; others had been ill only a few days and had no complications.

Owing to the unusual severity of the epidemic and the scarcity of doctors and nurses, the usual charting of cases was in a large measure abandoned, so that data which would be of interest were not available.

In so far as a short study of the malady thus far shows, alopecia seemed to occur as frequently in the patients in whom the duration of the influenza was short, as in those of longer duration. This would seem to indicate that whatever the causative factor, the pathologic influence on the hair follicle probably takes place within the first week of the disease.

Further observation in this affection may disclose whether the alopecia is due to the influenza toxin *per se* or a combination of the toxin and the already existing seborrhea.

# ROENTGEN RAY AND RADIUM IN THE TREATMENT OF BASAL CELL EPITHELIOMA

## A STATISTICAL STUDY

GEORGE M. MACKEE, M.D.

Assistant Professor of Dermatology and Syphilology, Columbia University  
College of Physicians and Surgeons

NEW YORK

The first basal cell epithelioma to be treated with the roentgen ray was demonstrated before the Swedish Medical Society on Dec. 19, 1899, by Stenbeck<sup>1</sup> of Stockholm. At the same meeting Sjögren<sup>2</sup> showed a similar case. In the former instance, however, the epithelioma had disappeared, while in the latter the demonstration occurred before a complete cure had been effected. These reports were immediately followed by others and very soon the literature was swamped with articles on this subject. The earliest reports in Europe were from the pens of Sederholm,<sup>3</sup> Scholtz,<sup>4</sup> Taylor,<sup>5</sup> Ferguson<sup>6</sup> and Sequeira.<sup>7</sup> In the United States the earliest workers were Johnston and Merrill,<sup>8</sup> Pusey,<sup>9</sup> Williams,<sup>10</sup> Beck,<sup>11</sup> Rinehart,<sup>12</sup> Morton,<sup>13</sup> Hopkins,<sup>14</sup> Allen<sup>15</sup> and Duncan.<sup>16</sup>

In the past twelve years a voluminous literature dealing with roentgenotherapy in basal cell epithelioma has been developed. But before reviewing and commenting on the more important articles the author desires to tabulate and discuss the results obtained in 258 unselected cases of basal cell epithelioma which were treated between the years 1910 and 1916, inclusive. The cases were treated in accordance with the intensive technic and the doses were carefully measured.

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1. Stenbeck: Mitt. a. d. Grenzgeb. d. Med. u. Chir. 1900, 6, p. 347.

2. Sjögren: Ibid.

3. Sederholm: Arch. f. Dermat. u. Syph., 1902, 59, p. 421.

4. Scholtz: Mitt. a. d. Grenzgeb. d. Med. u. Chir., 1900, 6, p. 347.

5. Taylor: Brit. Med. Jour., 1901, 2, p. 851; 1901, 1, p. 332.

6. Ferguson: Ibid., 1902, 1, p. 265; 1902, 14, p. 76.

7. Sequeira: Brit. Med. Jour., 1901, 2, p. 853.

8. Johnston and Merrill: Philadelphia Med. Jour., 1900, 6, p. 1089; Am. Med., 1902, 4, p. 217.

9. Pusey: The Roentgen Rays in Therapeutics and Diagnosis (Pusey and Caldwell). Ed. 2, Philadelphia, W. B. Saunders Company, 1904, p. 437. The author is indebted to this book for many of the early references.

10. Williams: Boston Med. and Surg. Jour., 1901, 144, p. 329.

11. Beck: Med. Rec., New York, 1902, 59, p. 83.

12. Rinehart: Philadelphia Med. Jour., 1902, 9, p. 221.

13. Morton: Med. Rec., New York, 1902, 59, p. 301.

14. Hopkins: Philadelphia Med. Jour., 1902, 9, p. 676.

15. Allen: New York State Jour. Med., 1902, 2, p. 176.

16. Duncan: Interstate Med. Jour., 1902, 9, p. 531.



## SCOPE OF THE AUTHOR'S OBSERVATIONS

Of the 258 cases, thirty-six were not seen after the first treatment, so that the result could not be recorded. This leaves a total of 222 cases that remained under observation for at least a few months. Of these 222 cases there were 201 clinical cures, or 90 per cent. Fifteen patients, 6 per cent., improved, and in 6 cases, 2 per cent., the lesions were not even benefited. When it is considered that the cases were not selected and that at least one-half the failures were due to the patients' inability to have second or third treatments at proper intervals, or that the case was deemed practically hopeless when treatment was instituted, 90 per cent. seems very satisfactory. As an illustration, several of the patients received a single treatment which did not suffice to effect a clinical cure. Then, on account of illness, old age, stormy weather, or other reasons, they did not return for the second treatment until the lesion was worse than it was at the beginning. In other instances the lesions were very deep and indurated, even involving the articulations or the entire orbit, and had received previous roentgen-ray treatment. If one could omit such cases the percentage of cures would be in the neighborhood of 96 or 98 instead of 90.

Preepitheliomatous lesions are not included in this study. In other words, every case was distinctly an epithelioma from a clinical standpoint and they varied in size from a split pea to several inches in diameter, in duration from a few months to several years and either developed as a nodule or evolved from some preepitheliomatous lesion, usually a so-called seborrheic wart. In only a few cases was the diagnosis confirmed by the microscope, but in most instances the individuals were seen by dermatological confrères who agreed with the diagnosis. It would be senseless to biopsy every case of basal cell epithelioma because it is one of the easiest conditions for the dermatologist to recognize.

## OCCURRENCE OF RELAPSES

Now regarding the question of relapses. Of the 201 clinically cured cases, forty-three failed to remain under observation for six months. As will be seen later, most of the recurrences take place between six months and one year so that patients that are not observed for at least six months are of little statistical value so far as concerns the question of recurrence. We have, then, a total of 158 cured cases that were observed for periods of from six months to five or more years. In this series of 158 cases there were twenty-four relapses — 15 per cent., leaving a total of possible permanent cures of 85 per cent.

A more critical analysis reveals that sixteen cases were observed for five years or more with only one relapse — about 94 per cent. of

supposedly permanent cures. Forty-six cases remained under observation for four years. In this series there were nine relapses, leaving 80 per cent. of probable permanent cures. Seventeen cases were followed for three years in which there were three recurrences—82 per cent. cures. Of the two-year cases (about two years) there were thirty-two, with five relapses—84 per cent. cures. Thirty-four cases were observed for about one year with five recurrences—85 per cent. cures. Thirteen cases were followed for six months—one relapse, 92 per cent. cures. Finally, forty-three cases were observed for from one to five months. In this series there were no relapses. Table 1 summarizes these statistics and enables the reader to grasp them at a glance.

TABLE 1.—CURES AND RELAPSES ARRANGED ACCORDING TO THE NUMBER OF YEARS UNDER OBSERVATION

Period of Observation	Number of Cases	Number of Relapses	Percentage of Cures
5 years.....	16	1	93.75
4 years.....	46	9	80.439
3 years.....	17	3	82.352
2 years.....	32	5	84.375
1 year.....	34	5	85.439
6 months.....	13	1	92.307
Less than 6 months.....	43	...	100

In this connection it is interesting to note that most of the recurrences manifested themselves in less than a year. As indicated in Table 2, there were twenty-four cases of relapse, eighteen (75 per cent.) of which occurred in the first year. Four were noted in the second year and two in the third year. These findings are valuable as they tend to indicate that if the patient can be kept under observation for a year, and there has been no recurrence during this time, the chances are that a permanent cure has been established.

#### POSSIBILITY OF LATE RELAPSE

Inasmuch, however, as one relapse was noted as late as the third year, it is advisable to warn the patient of this possibility. That there is not much likelihood of a *récidive* after the third year, in properly treated cases, is shown by the fact that seventy-nine patients were observed for periods of from three to five years, and yet there was only one relapse that manifested itself three years after treatment. A study of this chart will also show that nineteen of the twenty-four relapses were treated again with the roentgen ray, and that seventeen recovered. The two cases that did not respond to the roentgen ray also did not improve under the influence of radium. Two of the

recurrences were cured with radium and two by surgical excision. It will be noted that five cases relapsed a second time within a year after the second recovery. Four of these lesions again disappeared under further roentgen-ray treatment and one failed to respond either to the roentgen ray or radium. To recapitulate, seventeen out of nineteen primary relapses responded immediately to the roentgen ray—two failed to get well. Only one out of the five second recurrences failed to recover. From this it will be seen that a relapse should not cause unnecessary alarm.

TABLE 2.—RELAPSES ARRANGED BY TIME OF OCCURRENCE

Relapsed at End of	Relapse Treated with	Result	Second Relapse at End of	Second Relapse Treated with	Result
3 months	Excision	Cured			
5 months	Roentgen ray	Cured			
6 months	Roentgen ray	Cured			
6 months	Roentgen ray	Cured			
6 months	Roentgen ray	Cured			
6 months	Roentgen ray	Cured	4 months	Roentgen ray	Cured
6 months	Roentgen ray	Cured	1 year	Roentgen ray	Cured
6 months	Excision	Cured			
6 months	Roentgen ray	Cured			
6 months	Roentgen ray	Cured			
8 months	Radium	Cured	6 months	Roentgen ray	Failure
8 months	Roentgen ray	Cured		Radium	
1 year	Roentgen ray, radium	Failure			
1 year	Radium	Cured			
1 year	Roentgen ray	Cured	1 year	Roentgen ray	Cured
1 year	Roentgen ray	Cured			
1 year	Roentgen ray	Cured	1 year	Roentgen ray	Cured
1½ years	Roentgen ray	Cured			
1½ years	Roentgen ray	Cured			
2 years	Roentgen ray	Cured			
2 years	Roentgen ray	Cured			
2½ years	?	?			
3 years	Roentgen ray, radium	Failure			

## EFFECT OF PREVIOUS TREATMENT

An attempt was made to ascertain if previous treatment altered the susceptibility of the lesion to intensive roentgenization. The result of this study is shown in Tables 2 and 3. There were 201 cured cases, of which the previous treatment was known in only 155. Three cases are omitted from the twenty-one failures because the previous treatment could not be ascertained, and four cases omitted from the twenty-four relapses for the same reason. The most noteworthy feature here is that 55 per cent. of the failures were in cases that had been treated previously with the roentgen ray or radium, usually the roentgen ray in fractional doses over long periods of time. The percentages are obtained from the total number of cases as shown in the first column with the exception of the relapses. Here the "cured and not followed" cases were first deducted.

TABLE 3.—CURES, FAILURES AND RELAPSE ARRANGED ACCORDING TO PREVIOUS TREATMENT

Result	Number Cases	None	Excision	Caustics	Curettage, Cauterization	Roentgen Ray, Radium	Electricity
Cures.....	155	83 54%	10 6%	22 14%	18 12%	16 10%	6 4%
Failures.....	18	4 22%	1 6%	3 17%	0	10 55%	0
Relapses.....	20	5 25%	2 10%	6 30%	0	5 25%	2 10%

Table 4 shows the results in relation to the number of treatments given. Only the cases with known end-results are recorded—222 cases.

TABLE 4.—RESULTS IN RELATION TO THE NUMBER OF TREATMENTS

Number Treatments	Number of Cases	Cures	Cured, Not Followed	Relapses	Failures
First treatment cases.....	74	74 33%	14 19%	3 5%	
Second treatment cases.....	93	91 41%	17 19%	12 16%	2 0.009%
Third treatment cases.....	32	27 12%	2 7%	5 20%	5 2%
Fourth treatment cases.....	12	7 3%	2 29%	2 40%	5 2%
Fifth treatment cases.....	7	3 1%	.....	2 66.66%	4 1.8%
Sixth treatment cases.....	4	2 0.009%	1 50%	.....	2 0.009%

It will be seen from Table 4 that seventy-four cases, 33 per cent. of the total of 222, were cured as a result of one treatment. Or, considering only the cured cases (201), 37 per cent. were cured in one treatment, 45 per cent. in two treatments, 13 per cent. in three treatments, etc. It is interesting to note that four obstinate cases received as many as six intensive treatments with two cures and no relapses. The percentage of cures is high as far as the third treatment. It would seem from this, as would be naturally assumed, that if a lesion is not favorably influenced by two or three intensive treatments, the chances of producing a favorable result with the roentgen ray is materially lessened. The percentages are obtained from the number of cases treated with the exception of the relapses. Here the "cured and not followed" cases are first deducted from the total number of cases treated.



## RELATIVE VALUE OF MEDIUM AND HIGH PENETRATION

An attempt was made to determine the relative value of a medium and a high penetration. Unfortunately, the number of cases receiving a "medium" ray was small as compared with the number treated with a "hard" ray. Nevertheless, Table 5, which records these observations, is not without value. The study is based on a total of 200 "cured" cases. The other cases are omitted because the quality of ray used was either not recorded or it was somewhere between "medium" and "hard."

TABLE 5.—RESULTS IN RELATION TO THE QUALITY OF RAY

Quality of Ray	Number of Cases	Cures	Relapses	Failures	Cured, Not Followed
B 6-7.....	22	22 100%	2 9%		
B 9-10.....	178	157 88%	18 15%	21 12%	33 21%

It will be seen that as a general proposition, the medium quality gives the best results as shown by the 100 per cent. of cures against 88 per cent. with the higher penetration. The percentage of relapses is obtained by first deducting the "cured and not followed cases" from the total number of cases. The other percentages are obtained from the number of cases treated.

Table 6 records the cures in relation to the number of individual treatments administered in both the B 6 and the B 10 cases.

TABLE 6.—B 6 AND B 10 CASES ARRANGED ACCORDING TO THE NUMBER OF TREATMENTS

Quality of Ray	No. of Cases	No. of Cures	Number of Treatments					
			One	Two	Three	Four	Five	Six
B 6-7	22	22	9 41%	9 41%	3 14%	1 4%		
10	5	5	9	7	7	5	5	9
B 9-10	178	158	61 38.5%	69 44%	19 12%	5 3%	3 2%	1 0.006%

The percentages in Table 6 are obtained from the number of cures. For instance, there were 178 cases receiving the B 9-10 ray of which 158 were cured. Sixty-one of these 158 cures were given one treatment only, so that 38½ per cent. of the cures were the result of a single treatment. It will be seen that here, too, the "medium" ray apparently has a slight advantage.

Thirty-five of the cases with known end-results were treated with a B 9-10 ray filtered through 3 mm. of aluminum. A comparison of the results obtained with the filtered and unfiltered ray (B 9-10 being used in all these cases) will be found in Table 7.

TABLE 7.—RESULTS IN FILTERED AND UNFILTERED CASES

	Number of Cases	Cures	Cured, Not Followed	Relapses	Failures
Filtered.....	35	21 60%	3 14.285%	6 35%	14 40%
Unfiltered.....	147	141 96%	30 21%	13 11.666%	6 4%

The study outlined in Table 7 does not give the true comparative value of the two methods because, as a rule, the lesions that received filtered treatments were more deeply seated, larger and more indurated than were the lesions treated without the filter. The percentage of relapses is obtained after deducting the "cured and not followed" cases from the total number of cures. The other percentages are taken from the total number of cases.

#### NUMBER OF TREATMENTS REQUIRED

Some idea of the difference in malignancy or obstinacy of the lesions may be obtained by a glance at Table 8 which shows the number of treatments necessary in individual cases both with the filtered and the unfiltered ray.

TABLE 8.—FILTERED AND UNFILTERED CASES ARRANGED ACCORDING TO THE NUMBER OF TREATMENTS

	Number of Treatments											
	One		Two		Three		Four		Five		Six	
	Filt.	Unfilt.	Filt.	Unfilt.	Filt.	Unfilt.	Filt.	Unfilt.	Filt.	Unfilt.	Filt.	Unfilt.
Number cases .	3	59	10	63	7	18	5	6	7	..	3	1
Cures.....	2 6%	55 40%	9 25%	62 42%	4 12%	16 11%	2 6%	4 3%	3 8%	..	1 3%	1 0.006%
Relapses.....	..	2 3%	2 28%	8 16%	2 50%	1 7%	2 ..	1 50%	2 66.66%	..	..	..
Failures.....	1 3%	1 0.006%	1 3%	1 0.006%	3 8%	2 1%	3 8%	2 1%	4 12%	..	2 6%	..
Cured, not followed.....	..	14 24%	2 22%	13 21%	..	2 12.5%	..	..	..	..	..	1 100%

The key to Table 8 is as follows:

In the first vertical column there were three out of a total of thirty-five filtered cases that received only one treatment. Of these three cases, two were cured and one failed to improve. Therefore 6 per cent. of the thirty-five

filtered cases were cured in one treatment. The total thirty-five is obtained by adding the various filtered totals in the first horizontal column. In the second vertical column we find that fifty-nine out of 147 unfiltered cases received one treatment. Fifty-eight of these patients were cured; in other words, 39 per cent. of the total number of unfiltered cases were cured in one treatment. The failure percentage is also taken from the total 147, but for the relapses the "cured and not followed" cases, (fourteen) are deducted from the fifty-eight cures and the percentage obtained from the remaining forty-four cases that were cured and that remained under observation.

After eliminating the cases with unknown results there was a total of forty-three lesions that were curetted immediately preceding the application of the roentgen ray. The curettage was very superficial, consisting of the removal of crusts, nodular masses and indurated borders. Table 9 gives a comparison between the results obtained in cases that were and those that were not curetted.

TABLE 9.—COMPARISON OF RESULTS IN CURETTED AND NONCURETTED CASES

	Number of Cases	Cures	Cured, Not Followed	Relapses	Failures
Curetted.....	43	38 88%	5 13%	5 15%	5 12%
Not curetted.....	179	163 91%	31 19%	19 15%	16 9%

The percentage of relapses, as in the other tables, to be of true statistical value, have been obtained after subtracting the cured cases that failed to remain under observation from the total of cured cases. The other percentages are obtained from the totals in the first vertical column. It will be seen that there is not much difference in percentage between the cures that followed curettage and those that were not curetted. There is, however, considerable difference in the number of cases that were cured in one treatment, a matter of no little importance as will be shown later. Table 10 gives at a glance the number of treatments required in the curetted and noncuretted cases.

The percentages in Table 10 were obtained exactly as in Table 8. Here we see that 51 per cent. of the total number of curetted cases was cured in one treatment as against 28 per cent. of the cases that were not curetted.

#### EFFECT OF LOCATION ON RESULTS OF TREATMENT

On account of the frequent statements to the effect that epitheliomas in certain locations are particularly recalcitrant it was thought advisable to classify the results according to locations. Table 11 provides these statistics.

TABLE 10.—CURETTED AND NONCURETTED CASES ARRANGED ACCORDING TO THE NUMBER OF TREATMENTS

	Number of Treatments											
	One		Two		Three		Four		Five		Six	
	Curet- ted	Not Curet- ted	Curet- ted	Not Curet- ted	Curet- ted	Not Curet- ted	Curet- ted	Not Curet- ted	Curet- ted	Not Curet- ted	Curet- ted	Not Curet- ted
Number cases..	23	51	10	82	5	27	2	10	2	5	1	4
Cures.....	22 51%	50 28%	10 23%	80 43%	4 9%	23 13%	1 2%	6 3%	1 2%	2 1%	..	2 1%
Relapses.....	1 5%	2 5%	2 22%	11 17%	1 33.33%	3 14%	..	2 50%	1 100%	1 50%	..	..
Failures.....	1 2%	1 0.006%	..	2 1%	1 2%	4 2%	1 2%	4 2%	1 2%	3 1.66%	1 2%	2 1%
Cured, not fol- lowed.....	..	11 22%	1 10%	16 20%	1 25%	1 4%	..	2 33.33%	..	..	..	1 50%

TABLE 11.—RESULTS ARRANGED ACCORDING TO LOCATION

	Number Cases	Cured	Cured, Not Followed	Relapse	Failure
Nose.....	61	59 = 97%	10 = 17%	10 = 20%	2 = 3%
Internal canthus.....	24	19 = 79%	1 = 5%	5 = 28%	5 = 21%
Exterior canthus.....	8	7 = 87.5%	3 = 43%	..	1 = 12.5%
Forehead.....	35	32 = 91%	4 = 12.5%	6 = 21%	3 = 9%
Eyebrow.....	3	3 = 100%	..	..	..
Cheek.....	37	34 = 92%	7 = 21%	2 = 7%	3 = 8%
Lip.....	8	7 = 87.5%	3 = 43%	..	1 = 12.5%
Chin.....	14	13 = 93%	4 = 31%	..	1 = 7%
Ear.....	5	5 = 100%	..	1 = 20%	..
Behind ear.....	7	7 = 100%	1 = 14%	..	..
Eyelid.....	6	6 = 100%	2 = 33.33%	..	..
Neck.....	8	8 = 100%	..	1 = 12.5%	..
Trunk.....	6	5 = 83%	1 = 20%	..	1 = 16.66%
Hand.....	4	4 = 100%	..	..	..

According to Table 11 the most stubborn lesions are those located at the inner canthus. Here we find 79 per cent. cures, 26 per cent. relapses and 20 per cent. failures, as against 92 per cent. cures, 7 per cent. relapses and 8 per cent. failures for lesions on the cheek. The following is the key to Table 11:

Refer to the nose cases (first transverse column). The total number of cases is sixty-one. This includes the cures (fifty-nine) and the failures (two). The unknown cases (patients not reporting after the cessation of treatment) are not included. The percentages of cures and failures are taken from the total sixty-one. The percentage of relapses is obtained from the cures after deducting the "cured and not followed" cases.

#### CASES GROUPED ACCORDING TO CLINICAL TYPE

A compilation of statistics based on the clinical characteristics of the lesions offers material of prognostic value. In Table 12 an attempt has been made to divide the cases into groups possessing distinct clinical characteristics. The nodular lesions were those which con-



sisted of a single nodule or a group of coalesced nodules. These lesions, while at times quite thick, were for the most part superficial. They ranged in size from a split pea to a dime and, occasionally, a quarter. They were not ulcerated and not crusted. The ulceronodular lesions were nodular lesions which had undergone more or less ulceration. Many of these lesions were as large as a 50-cent piece and some were the size of a silver dollar. The superficial ulcers were lesions ranging in size from a split pea to a silver dollar, free of nodules and induration. At times these consisted of hardly more than a superficial erosion covered with a crust. The deep, indurated ulcers in size ranged from a silver quarter to an adult hand. The induration was dense and the ulceration extended into the subcutaneous tissue, and in many instances involved the muscles and other important structures. The infiltrated plaques represent split-pea to quarter-sized areas of adherent hyperkeratosis with underlying infiltration. The verrucous lesion is the infiltrated plaque just mentioned with a papillomatous or verrucous surface.

TABLE 12.—RESULTS ARRANGED ACCORDING TO THE CLINICAL TYPE

	Number of Cases	Cures	Cured, Not Followed	Relapses	Failures
Nodular.....	67	65 97%	13 20%	8 15%	2 3%
Superficial ulcer.....	16	16 100%	3 19%	4 31%	
Ulceronodular.....	84	78 93%	12 15%	7 11%	6 7%
Deep, indurated ulcer.....	43	30 70%	7 23%	6 26%	13 30%
Infiltrated plaque.....	12	12 100%	1 8%		
Verrucous.....	1	1 100%			

The key to Table 12 is as follows:

In the first horizontal column is shown the result obtained in the nodular type of epithelioma of which there were sixty-seven cases which were kept under observation for at least a few months. The percentage of cures and failures are obtained from this total. The percentage of relapses is obtained from the cures after deducting the "cured and not followed" cases.

It will be seen that the highest percentage of cures and the smallest number of failures were obtained in the infiltrated plaques. This is also true of the relapses. Of the well developed epitheliomas Table 12 shows that the best results were obtained in the superficial ulcers. Next comes the nodular and then the ulceronodular cases.

## NUMBER OF TREATMENTS GIVEN VARIOUS CLINICAL TYPES

Table 13 shows the number of treatments administered to the various clinical types. Only the cured cases and the failures are recorded. It will be noted that 62.5 per cent. of the superficial ulcers responded to one treatment as against 40 per cent. for the nodular, 28 per cent. for the ulcero-nodular, and 14 per cent. for the deep, indurated ulcers. The infiltrated plaques show the best result with a percentage of 91.66.

TABLE 13.—LESIONS OF VARIOUS CLINICAL TYPES ARRANGED ACCORDING TO NUMBER OF TREATMENTS

Clinical Appearance	Number Cases	Number of Treatments					
		One	Two	Three	Four	Five	Six
Nodular.....	68	27 40%	29 43%	7 10%	3 5%	1 1%	1 1%
Superficial ulcer.....	16	10 62.5%	3 18.75%	3 18.75%			
Ulcero-nodular.....	85	24 28%	39 46%	13 15%	4 5%	4 5%	1 1%
Deep, indurated ulcer.....	43	6 14%	18 42%	11 25%	4 9%	2 5%	2 5%
Infiltrated plaque.....	12	11 91.66%	1 8.33%				
Verrucous.....	1	..	100%				

## DEGREES OF REACTION OBSERVED

Table 14 shows the effect of varying degrees of roentgen-ray reaction on the epitheliomas. Omitting the third degree reactions and the cases showing no reaction, on account of their small numbers, we find that the highest percentage of cures and the smallest percentage of failures and relapses occurred in connection with reactions of the second degree. The percentage of relapses is particularly misleading in this instance, because 53 per cent. of the cured cases following a first degree reaction failed to remain under observation as compared with only 18 per cent. in the second degree cases. The percentages in this table were obtained in the same manner as in Table 12.

## EFFECT OF AGE ON RESULTS

Table 15 records the results in individuals of different ages. These statistics indicate the best results in young people, but the number of cases was too small to be of value. The next best showing was between the ages of 50 and 60, although when the table is carefully studied it is seen that age makes very little difference. The percentages were estimated in the same manner as those in Table 14.

TABLE 14.—RESULTS ARRANGED ACCORDING TO THE REACTION

Reaction	Number of Cases	Cures	Cured, Not Followed	Relapses	Failures
No reaction.....	5	4 40%	1 25%	....	1 20%
First degrees.....	59	43 73%	23 53%	18 90%	16 27%
Second degree.....	25	22 88%	4 18%	3 16.66%	3 12%
Third degree.....	2	2 100%			

## EFFECT OF SEX ON RESULTS

The last table (Table 16) shows the results in relation to sex. The best results were obtained in females. The percentages here were obtained in the same manner as those of the preceding table.

TABLE 15.—RESULTS IN RELATION TO AGE

Age	Number of Cases	Cures	Cured, Not Followed	Relapses	Failures
From 20 to 30.....	3	3 100%	1 33.33%		
From 31 to 40.....	25	21 84%	7 33.33%	2 14.285%	4 16%
From 41 to 50.....	64	58 91%	10 17%	6 12.5%	6 9%
From 51 to 60.....	56	53 95%	8 15%	9 20%	3 5%
From 61 to 70.....	32	28 87.5%	10 36%	3 16.66%	4 12.5%
From 71 to 85.....	23	20 87%	..	..	3 13%

TABLE 16.—RESULTS IN RELATION TO SEX

Sex	Number of Cases	Cures	Cured, Not Followed	Relapses	Failures	Unknown
Male.....	110	96 87%	19 20%	12 16%	14 13%	22 20%
Female.....	113	105 93%	17 16%	12 14%	8 7%	12 11%

## STATISTICS FOUND IN THE LITERATURE

While there is a voluminous literature dealing with the roentgen-ray treatment of cutaneous basal cell epitheliomas there are very few articles that give carefully compiled statistics. Pusey's<sup>17</sup> statistics,

17. Pusey, W. A.: The Roentgen Ray in Epithelioma: Report of a Series of Cases Treated More Than Three Years Ago, Tr. Sixth Internat. Dermat. Cong., N. Y., 1907, 1, p. 498.

published in 1907, do not differentiate between the basal cell and squamous cell types. In reading this article one gains the impression that most of the cases were of the basal cell variety. The report was based on 111 cases that were observed from three to six years. Four of the failures were clinically cured but relapsed.

Cured .....	80
Benefited .....	19
Failures .....	12
Total .....	111

Including under the heading of "cured" the four cases that relapsed, there were eighty-four cures in a total of 111 cases, 76 per cent. The percentage of relapses was 5. The roentgen ray was applied in fractional doses.

E. G. Williams<sup>18</sup> reported fifty-three cases of probable basal cell tumors, treated by the fractional technic. Of the fifty-three lesions, fifty-two healed under the influence of the roentgen ray. Nine patients were not seen again after they were clinically cured. Twelve cases were not observed for six months. The remainder, thirty-two cases, were followed for from six months to four years. There were six recurrences — three in the first year and three in the second year. They all healed a second time under the influence of the roentgen ray. In one case there were two recurrences and the lesion was clinically cured each time by a continuation of the same treatment.

Cures .....	52	Cures (observed more than six months) ..	31
Failures .....	1	Relapses .....	6
Total .....	53	Per cent. relapses .....	19
Per cent. cures, 98.			

In August, 1909, Sequeira<sup>19</sup> reported the results obtained by roentgenotherapy in 236 cases of basal cell epithelioma which were treated in the period between June, 1900, and Dec. 31, 1905. The fractional technic was employed.

Cured (under observation from three to six years) .....	75
Cured (under observation for at least two years) .....	26
Cured—relapsed—ultimately cured .....	31
Cured—relapsed and failed to respond .....	7
Total number of clinical cures .....	139
Improved—never quite healed .....	19
Very little influenced .....	16
Spread in spite of rays .....	7

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The percentage of cures was 66. Of the 139 cures, thirty-eight relapsed, making a percentage of recurrences of 27.

18. Williams, E. G.: Report of Cases of Cancer Treated with the X-ray with Comment Thereon, Tr. Am. Roent. Soc., 1907, p. 34.

19. Sequeira, J. H.: Treatment of Cancer by Radiotherapy and Radium, Arch. Roent. Ray, 1909, 16, p. 75.



C. M. Williams,<sup>20</sup> in 1905 and 1906, reported sixteen cases of basal cell epithelioma of which eleven were clinically cured — a percentage of 68.75. Two of the eleven cures relapsed (18 per cent.), one at the end of seven months and the other in the second year. The patients were observed for a period of three years. The treatment was fractional. Most of the failures were in deep-seated, indurated rodent ulcers.

Stern<sup>21</sup> reports eighty-five cases of rodent ulcer treated with fractional roentgen-ray doses. In many of the cases the high frequency spark was employed to destroy the indurated edge. Forty-five of the eighty-five cases (53 per cent.) were clinically cured. Nothing is known regarding relapses, as the patients were not kept under observation. Hahn<sup>22</sup> claims that he has cured 95 per cent. and Schultz<sup>23</sup> 90 per cent. of their cases of rodent ulcer, but they do not publish their statistics. Dachtler,<sup>24</sup> in 1917, published statistics based on the roentgen-ray treatment of 509 cases of cutaneous epithelioma. He does not separate the tumors into basal and squamous cell varieties, but it can be assumed that most of them were of the basal cell type, although many of them, as some of those of the lips (mucous surface), must have been of the squamous cell variety. Preepitheliomas were not included in the report.

The technic is not mentioned, but it probably consisted of fractional doses. The results are as follows:

Location	Males	Females	Total	Cured
Eyelids .....	98	47	145	134
Nose .....	61	49	110	102
Cheek .....	60	35	95	81
Lower lip.....	55	2	57	52
Forehead .....	17	27	44	43
Ear .....	22	3	25	20
Upper lip.....	12	6	18	16
Chin .....	6	2	8	8
Neck .....	7	..	7	7
	<hr/> 338	<hr/> 171	<hr/> 509	<hr/> 463

Dachtler does not include relapses in his statistics, but many of the patients were observed for from two to six years, and one gains the impression from a perusal of the article that there were few if any recurrences. The total percentage of cures was 91.

20. Williams, C. M.: X-ray Treatment of Cutaneous Epithelioma, *Am. Jour. Med. Sc.*, March, 1905; Late Results of the X-ray Treatment of Cutaneous Epithelioma, *Med. Rec.*, New York, Dec. 8, 1906.

21. Stern, Samuel: *Tr. Sixth Internat. Dermat. Cong.*, 1907, 1, p. 506.

22. Hahn: *Arch. Roent. Ray*, 1907-1908, 12, p. 278.

23. Schultz: *X-ray Treatment of Skin Diseases*, New York, Rebman Co., p. 151.

24. Dachtler, H. W.: *Am. Jour. Roent.*, January, 1917.

## COMMENT

It will be seen that the lowest percentage of clinical cures in any of the statistics is 53 (Stern), while they run as high as 98 per cent. (E. G. Williams). The lowest percentage of relapses was 5 (Pusey); the highest was 27 (Sequeira). It is of little practical value to compare these statistics, for some of them are incomplete, they treat the various items differently; some of them include both the squamous and basal cell types, while others do not, and the technic of the various authors differs materially. For the same reason it is impractical to endeavor to obtain a mean average of temporary and permanent cures. Most roentgenologists agree that it is possible to obtain as high as 98 per cent. of clinical cures and from 94 to 96 per cent. of permanent cures in selected cases of basal cell epithelioma and from 80 to 90 per cent. of permanent cures in unselected cases.

In the author's statistics of unselected cases there was a percentage of clinical cures amounting to 90 with 15 per cent. relapses. Most of the recurrences, however, responded to further treatment so that the original percentage of 90 is not materially reduced. It will be recalled that the cases that were observed for five years showed a percentage of permanent cures of 94; four-year cases, 80 per cent.; three-year cases, 82 per cent.; two-year cases, 85 per cent. These percentages can be increased by omitting the recurrences that again healed under the influence of the roentgen ray.

## COMPARISON OF METHODS OF TREATMENT

Now let us see how these statistics compare with those associated with other methods of treatment. Hazen<sup>25</sup> reports a series of 178 basal cell epitheliomas which were treated by surgical excision. Twenty-eight patients were his own, the remainder being borrowed from the service of Dr. Bloodgood at the Johns Hopkins Hospital.

Sixty-four patients were kept under observation for more than three years. Four of these patients were well at the end of three years; thirteen at the end of four years; thirty-nine after five or more years. In seven instances there was a recurrence. This gives a percentage of permanent cures of 86 in the unselected cases. There were five practically hopeless cases, and if these are omitted and only the selected cases considered, the percentage of cures will amount to 93. A further study of the treated cases, as regards the duration and the extent of the lesion, gives the following data:

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25. Hazen, H. H.: Basal-Celled Cancers of the Skin, *South. Med. Jour.*, March, 1917.

Duration	Cured	Recurrent
1 year.....	17	2
2 years.....	8	..
3 years.....	9	..
5 years.....	12	3
10 years.....	17	3
Size	Cured	Recurrent
Under 1 inch.....	33	2
From 1 to 2 inches.....	19	2
Extensive .....	4	4

It will be seen that there is really very little difference, according to statistics, between the results obtained by surgical excision and by the roentgen ray. Sherwell<sup>26</sup> obtained 90 per cent. of permanent cures in unselected cases with the vigorous use of acid nitrate of mercury after a thorough curettage, but this estimation is not based on carefully compiled statistics. The literature does not appear to contain statistics based on the use of the various caustics such as arsenic, zinc, carbon dioxid snow, actual cautery, desiccation, etc. It has been claimed by A. Robinson and others that arsenical paste, if properly employed, gives as high a percentage of permanent cures as does any other method. And it is the consensus of opinion among dermatologists that a vigorous-acting caustic if thoroughly applied constitutes an excellent method of treatment. On the other hand, there seems to be very little confidence in carbon dioxid snow, superficial caustics, electricity and similar agents.

#### THE METHODS OF CHOICE

So far as concerns statistics the best results are associated with excision and with the roentgen ray, and as has been shown, the figures are very much the same in both instances if the work is properly done. Let us assume, therefore, that as far as concerns the prognosis, there is no choice between the two methods. Neither method can be carelessly undertaken. If the roentgen ray is to be applied it should be administered by one who possesses the ability and the means of employing a modern technic. In surgery there is only one difficulty, and that pertains to the complete removal of all diseased tissue. It is obvious that if all the malignant cells are removed there can be no relapse. The tendency, however, in order to obtain a good cosmetic result, is to cut too close to the macroscopic lesion. In a number of instances the author has obtained the excised tissue *in toto*, cut it serially and found that the proliferated epithelial cells extended right to the edge of the incision. It is a question if such an examination should not always be made and then if the indications warrant it, the roentgen ray can be employed to prevent recurrence.

26. Sherwell, S.: Jour. New York State Med. Soc., January, 1908; THE JOURNAL CUTAN. DIS., Oct. 10, 1910.

## OCCURRENCE OF SCAR FORMATION AFTER TREATMENT

In small epitheliomas, lesions that can be excised and the wound made to heal by primary intention and particularly if the subcuticular stitch is employed, the resulting linear scar is hardly discernible. In instances when there is considerable ulceration, the deformity subsequent to excision and primary union may be less than after the use of the roentgen ray, as the destruction of tissue by the ulcerative process may necessarily leave a scar. On the other hand, when there is no ulceration, or the ulceration is very superficial, it may be impossible to locate the site previously occupied by the lesion after a cure has been effected by roentgenization. In considering the cosmetic possibilities it is well to bear in mind that the amount of ray necessary to effect a complete cure may in some individuals produce subsequent wrinkling or telangiectasia or both. Furthermore, one must admit the slight possibility of overtreatment with the production of a serious chronic radiodermatitis.

## RESULTS IN THE AUTHOR'S CASES

In the author's series of 258 patients there were only two cases of noticeable wrinkling and six cases of telangiectasia. This is in marked contrast to the number of instances of telangiectasia following the roentgen-ray treatment of other affections such as keloid, in which the ray was allowed to come in contact with the normal skin beyond the edge of the lesion. Perhaps this can be explained by the fact that in keloid, as a rule, one is dealing with younger subjects, or it might be a pure coincidence. Telangiectasia following a single erythema dose or subsequent to an erythema provoked by fractional doses is not a rare phenomenon, and it is curious why it does not occur oftener in epithelioma in which considerable normal skin is exposed to one or more erythema doses. There were two cases of third degree radiodermatitis of small extent, both of which healed in a few months.

## DISADVANTAGES OF SURGICAL INTERFERENCE

The surgeon, working with the knife, is at a disadvantage in extensive lesions in which it is difficult, if not impossible, to remove all the diseased tissue and in which the resulting wound must be allowed to heal by granulation, or in which skin grafting or a skin flap is necessary. Nevertheless, remarkable results can be obtained in such cases by a clever surgeon.



## COMPARING OF RESULTS

It is unfortunate that no statistical comparison can be made with the results obtained by the use of curettage and strong chemical or electrical caustics. These methods do not yield as good cosmetic results as does the roentgen ray in small lesions, but in large, ulcerative lesions there is very little choice from the standpoint of cosmetics.

## PRIMAL OBJECT IN ALL TREATMENT

In the treatment of epithelioma the main requisite is the complete destruction of the lesion — not a single malignant cell must remain. The cosmetic result while worthy of consideration is of secondary importance. Let us assume that the average basal cell growth can be cured by excision, roentgen ray or radium, or by very powerful caustics. This being true the author favors the roentgen ray or radium because there is no pain nor inconvenience to the healthy, active individual and no physical shock to the aged or weak patient. However, after one has had long experience in the use of these various methods of combating the disease he is likely to select the treatment or combination of treatments apparently most suitable to the individual case. In superficial lesions the author favors the roentgen ray and radium because of the good cosmetic results, the high percentage of permanent cures, and because there is no pain or inconvenience or loss of time to the patient. Lesions situated at the inner canthus, on the eyelids or on the nasal alae are especially suitable for roentgenotherapy or radium therapy on account of the difficulty of applying adequate surgical methods to these locations. Extensive, deep-seated growths, especially when markedly indurated, are likely to prove very recalcitrant and such lesions can very often be most successfully combated by the use of the knife, the curet, chemical caustics, fulguration (desiccation) or the actual cautery, followed by one or two intensive applications of radium or the roentgen ray. Not only will this procedure add to the certainty of a prompt, permanent cure, but it will remove the necessity of a relatively large number of very intensive doses which would occupy considerable time and which might lead to undesirable sequelae.

## PROGNOSIS DEPENDS ON EFFECT OF PREVIOUS TREATMENT

It is well known that the previous treatment affects, to some extent, the prognosis. Table 3 shows that the most stubborn lesions are those that have received repeated courses of fractional roentgen-ray treatment. For this reason it would seem advisable, in selecting a method or a combination method, to carefully consider the previous

treatment and its result. If, for instance, the skin in the neighborhood of the lesion shows roentgen-ray sequelae (atrophy, telangiectasia, or similar conditions) it would seem advisable to employ some procedure other than the roentgen ray or radium. Finally, if a lesion does not respond at once to intensive radiation it is advisable to utilize some other method instead of proceeding with roentgenization indefinitely. Some roentgenologists will not agree with this statement. They are convinced that every basal cell epithelioma can be cured with the roentgen ray or with radium if the dose is sufficiently intensive, the treatment being pushed to the point of producing a third degree radiodermatitis if necessary. In confutation of this opinion the author has studied tissue removed from roentgen-ray ulcers (on the site of a basal cell epithelioma) of long duration and found actively proliferating epithelial cells deep in the tissue or at the edge of the ulcer.

#### TECHNIC OF APPLYING THE ROENTGEN RAYS

Now comes the question of choice of technic — intensive or fractional. Those who have watched the evolution of roentgenotherapy of epithelioma will admit that the tendency has been to intensify the technic. Years ago all operators employed the fractional method and it was indeed, with a few exceptions, very fractional. That is, in those days, it required from twenty-five to fifty or even more treatments to cause a small rodent ulcer to heal. The men who now employ the fractional technic accomplish the desired result in from six to twelve applications. Comparatively speaking, this is intensive treatment. The author has a very vivid and rather sad recollection of his early experience with the use of the fraction method in the treatment of basal cell epithelioma. Unfortunately, he kept no careful records at the time, and those that he did preserve were lost. The results were very poor and they remained poor until a more intensive technic was developed. As a matter of fact, the end-result of the roentgen-ray treatment of epithelioma was so bad at that time that it was difficult to obtain permission in New York to treat a case with the roentgen ray. In this connection, American roentgenology owes a debt of gratitude to Dr. William A. Pusey. While always an advocate of the fractional technic, comparatively speaking his treatment was intensive. And it was largely due to the persevering efforts of this well known dermatologist in making the profession acquainted with the possibilities of the roentgen ray in the treatment of epithelioma, that confidence in the work was finally restored.

While his percentage of permanent cures was only 76, it must be remembered that he included prickle cell cancer, that the cases were unselected, and that his results were given in 1907, at a time when roentgenologists were laboring under great disadvantages.

## IMPORTANCE OF INTENSIVE TREATMENT

The literature does not seem to contain statistics based on a truly intensive treatment of basal cell epithelioma. The author admits that Dr. Pusey and many other men can equal, with the fractional technic, his statistics, but he does insist that for a good showing in a large number of cases it is essential that a reasonably intensive treatment be employed. And this is the opinion of the majority of roentgenologists.

The author's experience with the fractional technic of former years, with the fractional technic of today and with the intensive technic has led to a firm conviction that the last mentioned method offers the greatest advantages in the roentgen-ray treatment of epithelioma. It is fairly well agreed now that small doses of roentgen ray may actually stimulate a neoplasm and produce a more rapid growth. Furthermore, these small doses applied over a long period of time, may in some way cause the cell to resist the beneficial influence of the ray. These facts may explain, theoretically at least, why so many tumors improve for awhile under small doses and then grow steadily worse in spite of a continuation of the treatment. And it may also explain why such cases fail to yield to intensive roentgenization.

In this connection the author has noted that if a lesion has failed to respond to the old-fashioned fractional method and then several months or a year or two elapse without treatment, the lesion is more likely to respond to intensive roentgenization than when this treatment is administered immediately on the cessation of the fractional treatments. While the author has no figures to prove it, his results have been very much better with the intensive than with the fractional technic and the increase in the percentage of permanent cures has apparently been directly proportionate with the increase in the intensity of the treatment, at least up to a certain point. Even with the fractional technic of today there is a theoretical stimulation with the first few applications, but the accumulative effect is probably sufficiently rapid to prevent injurious stimulation.

Speaking from personal experience the author has found that relapses following intensive treatment respond more readily to further intensive treatment than did the recurrences following his former fractional technic. In Table 2 are recorded nineteen relapses, seventeen of which were again clinically cured by one or two intensive treatments. Five of these cases again recurred, four of which again responded to further intensive treatment and have remained well for at least two years. Such results were not obtained years ago by the author although both Drs. Pusey and Williams succeeded in curing the same proportion of récidives with a fractional technic.



## MAXIMUM SKIN TOLERATION APPLICATIONS ADVISABLE

There is another point that possibly favors intensive technic and that should receive some consideration. By administering a skin toleration dose it is possible to cure many small epitheliomas in one treatment. In the author's statistics 37 per cent. were cured as a result of one application. For the sake of argument let us assume that this intensive dose for epitheliomas is H 2 B 10. Now, if this amount of ray is divided into fractions of H  $\frac{1}{4}$  B 10 and administered twice weekly, it is likely to require H 3, H 4 or even more to bring about the same result. In other words, with the fractional technic the total dosage is greater than with the intensive method and as a rule the smaller the individual doses the greater will be the total dose. It is doubtful if this fact is of much practical importance if the lesion is cured in relatively few treatments as, for instance, when H  $\frac{1}{4}$  or H  $\frac{1}{2}$ , B 10 is given twice weekly. But when the fractions consist of H  $\frac{1}{8}$ ,  $\frac{1}{16}$  or less, the total dose is likely to be as high as H 15 or 20. Even here, the poor results may not be caused by the high total dosage, but rather to the fact that for the first few weeks or months of such treatment the malignant tissue is stimulated and made more resistant.

## PRELIMINARY CURETTAGE

Until proof to the contrary is elicited it would seem, from a scientific point of view, preferable to cure a case with a minimum rather than with a maximum amount of ray. And it is for this reason that the author favors the use of some preliminary measure such as the curet in indurated or markedly nodular lesions. Table 10 strengthens this statement for we see that in the cases that were not curetted the percentage of cures as a result of one treatment was 28 as against 51 per cent. in the curetted cases. There is no objection, other than cosmetic, to the use of the curet under local anesthesia in this type of epithelioma because there is no danger of metastasis.

The saving of time for the patient is at times of the utmost importance and certainly, if a lesion can be cured in one or two instead of many treatments, the individual is spared a great deal of trouble and time.

## CAUSES OF FAILURES

While the intensive treatment, as a rule, fails only in lesions that are considered rather hopeless from the start, nevertheless, small, superficial lesions are at times remarkably rebellious and occasionally refuse to heal. These lesions, clinically and histologically, are identical with the growths that yield readily to the roentgen ray and it is impossible to formulate a satisfactory explanation for such failures. Many of the cases of this particular type in the author's practice were



situated on the nose and for awhile it was thought that location might influence the outcome but the statistics, as shown in Table 11, do not support this contention. These statistics show that the most rebellious lesions were situated at the inner canthus, while both Sequeira and Dachtler had the greatest trouble with lesions on the cheek.

#### QUALITY OF THE ROENTGEN RAY

In the selection of the kind of ray, quality is possibly a matter of more importance than roentgenologists have been willing to admit. The author is not aware of any carefully conducted experiments to determine the best quality of ray for the different clinical types of basal cell epithelioma. He has employed a B 10 ray as a routine because it was thought that the higher penetrations allowed a greater margin of safety and because the results seemed satisfactory. It will be recalled that Table 5 showed 100 per cent. clinical cures and 9 per cent. relapses with a B 6 ray as against 88 per cent. clinical cures and 15 per cent. of relapses with a B 10 ray. Acknowledging the fact that statistics are more or less unreliable, but accepting them at their face value, the "medium ray" in this instance has a decided advantage.

Schultz<sup>27</sup> has succeeded in curing epitheliomas with very "soft rays" that failed to respond at all to a ray of greater penetration. He avers that the quality of ray employed should be in accordance with the specific gravity of the tumor mass. Regardless of the reason for this phenomenon, it is a fact that a superficial epithelioma that has failed to improve under the influence of roentgen rays of medium or hard penetration, may heal as a result of an intensive application of the beta rays of radium. It is possible, therefore, that "medium," "soft" and very "soft" roentgen rays are indicated in certain cases. That they are not indicated in all cases is demonstrated by the fact that an occasional tumor will respond better to a well-filtered hard ray than to rays of lower penetration. It is possible that both the depth and density of the lesion are deciding factors. In deep and indurated lesions the dose that reaches the lowermost part of the growth when a "low ray" is used, may be relatively small and just about enough to stimulate rather than retard the growth. It is quite possible, therefore, that the quality should be selected that is best suited to the individual case. Before this can be done with reasonable certainty considerable experimental work will be required. Basing an opinion on what is already known, it would seem that a "soft" ray would be most suitable for the superficial, nonindurated growths and the filtered "hard" ray for deep-seated, dense, indurated lesions.

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27. Schultz: X-ray Treatment of Skin Diseases, New York, Rebman Co., p. 83.

## GOOD COSMETIC EFFECT DESIRED

While the cosmetic result in the treatment of epithelioma is of secondary importance, yet, when it does not interfere with the cure of the disease, one is justified in attempting a pleasing result from a cosmetic point of view. It will not do, of course, to limit the exposure to the macroscopic lesion. The surrounding skin, also, must be treated, and if an erythema is provoked telangiectasia may follow. Telangiectasia may be avoided by administering suberythema doses at suitable intervals, or, if one is dealing with an ulcer, a full erythema dose can be applied to the lesion and a suberythema dose to the surrounding apparently normal skin. The author's practice is to administer H 2 B 10 (skin distance) to the lesion and to the normal skin for from  $\frac{1}{4}$  to  $\frac{1}{2}$  inch beyond the clinical manifestation of the growth and H  $1\frac{1}{4}$ , B 10 (skin distance) to the normal skin for an additional  $\frac{1}{2}$  or 1 inch. H 2, B 10 (skin distance) will almost always produce at least a pronounced erythema and sometimes a dermatitis and even vesiculation, depending on the location, age, complexion, sex and similar factors.

In aged individuals, or if the lesion is deep or markedly indurated, the dose is often increased to H  $2\frac{1}{4}$ , B 10 (skin distance), or even H  $2\frac{1}{2}$  (skin distance). The smaller dose of H  $1\frac{1}{4}$  to the normal skin will not, as a rule, produce more than a faint and transitory erythema. If it is necessary to make the application to the mucosa the dose is reduced to about H  $1\frac{1}{2}$  because the mucous membranes are more susceptible than is the skin. When a ray of a quality of B 10 is filtered through 3 mm. of aluminum the dose may be increased. Here the minimum dose would be H 2 and the maximum H 3. If the quality is lowered it is advisable to also reduce the quantity. The intensive treatments are administered at intervals of from four to six weeks unless erythema persists, when a longer rest is allowed.

If there is not a marked response to the first treatment it is advisable to alter the quality for the second application, either using less penetration or greater penetration according to the character of the lesion and to urge or even insist on the use of the curet and, finally, if the result is not satisfactory after the second intensive dose, the question of excision or some other reliable surgical procedure should be seriously considered.

For the fractional technic H  $\frac{1}{4}$  B 10 (skin distance) unfiltered, twice weekly, or H  $\frac{1}{2}$  once weekly, will provoke a faint erythema, as a rule in about a month, and a well pronounced erythematous reaction in from six to eight weeks. H  $\frac{1}{3}$  twice weekly should effect a well marked reaction in about a month. If a filter is used the dose can be increased a little.

It is important that the normal skin, the hairy parts, the eye and other important organs be suitably protected with lead foil.

## TREATING LARGE LESIONS

When dealing with large lesions — the size of a palm or an adult hand — the margin will receive a smaller dose than will the center of the growth on account of the increased distance and the fact that it is only the oblique ray that reaches the edge of the diseased area. To insure a fairly equal distribution of the dose in such instances it is advisable to divide the affected area into from two to four squares and administer a full dose to each square, care being taken not to allow overlapping. When the growth is situated on the upper eyelid the eye is cocainized and a piece of gauze saturated with bismuth paste is placed between the lid and the eyeball. Unless involved in the growth, the edge of the lid is also covered with the paste in order to protect the eyelashes.

Being cognizant of the experimental work conducted by Murphy at the Rockefeller Institute the author treated a few cases of basal cell epithelioma by exposing the general surface of the body to the roentgen ray. He was unable to materially increase the percentage of lymphocytes and there was no appreciable improvement in the lesions. Very little is known about the practical application of this method and perhaps further observation and experimentation will lead to better results.

## EFFECT ON THE SURROUNDING TISSUE

In a few cases of basal cell epithelioma an erythema dose, while having the desired effect on the growth, appeared to produce a temporary overactivity of the sebaceous glands and of the epidermis which was manifested by the formation of thick waxy scales. It was noted that this phenomenon occurred only on the face. In one instance wart-like growths developed but disappeared in a week or two. It is possible that these phenomena represent either an overzealous or an abnormal attempt at repair. Occasionally, after the disappearance of the epithelioma, the former site of the lesion will be scaly for a number of months. In such instances a soothing ointment may be applied, but stimulating and irritating applications are contraindicated, as such measures are likely to provoke a dermatitis weeks and even months after cessation of roentgenization.

## RADIUM

Unfortunately, the author has been unable to locate statistics showing the results of applying radium in the treatment of basal cell epithelioma. Those who have employed both agents agree that the results are similar. Some claim that radium is superior and others that the roentgen ray is preferable. In the absence of statistics the author will be guided by his own experience.

## AUTHOR'S OBSERVATIONS

In the first place radium will occasionally succeed after the roentgen ray has failed. In such instances the result has been achieved by the use of the beta-rays. In no instance has the author been able to effect a cure with the roentgen ray when radium failed. Furthermore, in cases in which the roentgen ray proved inefficacious the gamma-rays of radium also failed to be effective. The number of cases treated is too small and the length of time too short to make the statistics of any value. The impression gained is that for small, superficial lesions the more penetrating of the beta-rays are superior to the gamma-rays of radium, and the reverse is true for deep-seated, indurated growths. It is also the opinion that radium is somewhat superior to the roentgen ray for these small, superficial epitheliomas, providing the beta-rays are utilized and that all crusts, scales and discharge are removed before the application is made. The author has not detected any difference in efficacy between gamma-rays of radium and the roentgen ray. The radium applications have been intensive, one exposure being sufficient to produce a first or second degree reaction.

## TECHNIC OF APPLYING THE RADIUM APPLICATION

It is, of course, a very simple matter to treat a small lesion with a radium plaque. If the growth is larger than the applicator, the entire lesion is covered by dividing it into areas and the plaque applied to each area, care being taken to avoid overlapping. If the applicator is considerably larger than the lesion, the latter is surrounded with lead foil as when applying the roentgen ray. The dose will depend on the amount of radium element contained in the applicator. While the author prefers intensive treatments, the erythema dose may be divided into fractions. If, for instance, it requires fifteen minutes with the unfiltered applicator in contact with the skin to produce a marked erythema, five fractional doses of three minutes each could be given, although it will probably require a total of from twenty to twenty-five minutes fractionally administered to obtain the same degree of reaction as effected by the single application of fifteen minutes. The difference in time of exposure between filtered and unfiltered radium, especially if a lead filter is employed, is enormous, and unless one has a very large amount of the element the time required (several hours) for an intensive dose is a positive nuisance, especially when one considers that the results of such treatment are no better than those obtained with the roentgen ray, which only requires a few minutes for the administration of an intensive dose.



## CASES IN WHICH RADIUM TREATMENT IS PREFERRED

There are instances in which radium is of especial service. In cases in which the lesion is situated on the eyelid, the beta-rays may be employed and the eye itself need not be protected excepting by the lead foil which surrounds the lesion. The eye will not be injured by the small dose of gamma-rays and the more penetrating beta-rays that pass through the lesion and reach the eye unless several applications are necessary in which case it is preferable to protect the eyes as when using the roentgen ray. If the lesion is situated on the nose a radium plaque can be applied to the lesion and a tube of the element placed in the nose for the purpose of cross-firing.

When the lesion involves the nasal alae and extends into the nose, or when situated at the commissures of the mouth and involving the buccal mucosa, or when located at the margin of the lids with involvement of the conjunctiva, radium is often easier to apply and may prove more efficacious than the roentgen ray. Conversely, radium is more difficult to apply to the inner canthus than is the roentgen ray on account of the irregularly concave surface. When treating moist surfaces the unfiltered plaque is usually protected by a single layer of gutta-percha tissue, very thin rubber, or oiled silk.

In order to avoid the very superficial beta-rays a very thin filter ( $\frac{1}{10}$  mm. aluminum) is advisable, even for superficial lesions. It should be borne in mind that radium if improperly applied, will effect all of the sequelae produced by the roentgen ray, namely, second and third degree "burns," atrophy, telangiectasia, keratoses, and similar conditions.

# Society Transactions

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## NEW YORK ACADEMY OF MEDICINE, SECTION ON DERMATOLOGY

*Regular Meeting, Jan. 2, 1918*

GEORGE M. MACKEE, M.D., *Chairman*

### PARAPSORIASIS GUTTATA. Presented by DR. ROSEN.

Rose L., aged 24, a single woman, was born in Russia. The family history was negative. On her arrival in this country, three years ago, the patient had scabies which, under treatment, lasted four weeks. She had had no other skin disease.

The eruption for which she was presented began about nine months ago, first involving the forearms, later the abdomen, chest, back, thighs and lower extremities.

The patient presented a more or less generalized guttate eruption, faint brown-red in color with very delicate scaling. There were no subjective symptoms. The eruption was very obstinate to all forms of treatment. The Wassermann test was negative.

#### DISCUSSION

DR. WISE agreed with the diagnosis, basing such diagnosis on the chronicity of the lesions and the fact that they were recalcitrant to treatment. The eruption was the replica of one shown by the chairman last year, before the New York Dermatological Society, in a young man, a private patient.

DR. OULMANN agreed with the diagnosis and said that these cases were not as rare as formerly, as we recognized them more frequently.

### ERYTHEMA MULTIFORME. Presented by DR. ABRAMOWITZ.

The patient, M. N., was a single woman, aged 18, employed as a factory worker. The family and past history were negative. The duration of the trouble was five days. On the backs of the hands and the wrists there were several erythematous, circular and oval patches, split pea to 25-cent piece in size, the center of which was colored a deep red, the surrounding area being elevated and vesicular. There were small erythematous and scaly patches on the left side of the neck and the lower lip and left nostril. The patient complained of itching.

### POSSIBLE MACULAR LEPROSY. Presented for DR. AITKEN by DR. THRONE.

The patient was a man, aged 32, who gave a history of six and a half months' duration of his lesion. He was given some intravenous therapy, probably an arsphenamin (salvarsan) substitute, four months ago. The clinical diagnosis was macular leprosy. A biopsy was taken and an acid-fast bacillus was found about the nerve fibers. The Wassermann reaction was negative. There was a slight clinical resemblance to lichen planus and to premycotic mycosis fungoides but the histopathologic picture ruled out both

conditions. The atrophic lesions had appeared since the case came under observation.\*

There was dilatation of the blood vessels of the papillary bodies and upper part of the corium with exudation or infiltration with large cells with poorly outlined bodies, fibroblasts, and large numbers of basophil cells. There was intercellular edema, most marked in the upper part of the corium. The cellular infiltration could be traced through the corium occurring around the blood vessels and the sweat glands. The cells here were fibroblasts, pigment containing cells and basophils. A few very large cells were found in the corium with two or three nuclei. The absence of round cell infiltration was against the diagnosis of lichen. NOTE: (Dec. 15, 1917.) On repeated search for leprosy bacilli, two acid-fast beaded organisms were found in connection with two nerve fibers. The nasal secretion was negative for leprosy organisms.

#### DISCUSSION

DR. WISE did not agree with the diagnosis of leprosy. The case suggested somewhat macular atrophy of the skin. The chairman had called the speaker's attention, however, to some leukoplakia-like lesions on the buccal mucosa which suggested the possibility of lichen planus. While he had never seen lichen planus produce the atrophic appearance that this patient presented, yet the eruption he thought might be the end-result of this disease.

DR. OULMANN said he did not consider the case as being one of leprosy; the patient giving a history of a general dermatitis leaving pigmentations behind, with neither clinical nor bacteriologic symptoms for leprosy, induced him to agree with Dr. Wise.

DR. ROTHWELL said that he had seen the patient some time previously and the impression at that time was that he was suffering from lichen planus atrophicus. The patient had been treated with arsenic and this might have added to the pigmentation.

DR. WISE said he understood that two biopsies had been made and that lichen planus was excluded. He thought that cognizance should be taken of this fact.

DR. THRONE said a biopsy had been made and nothing characteristic found and for this reason a second biopsy was made. Here, too, there was nothing suggestive of lichen planus.

DR. ABRAMOWITZ asked if there was any anesthesia.

DR. THRONE said that no anesthetic areas were found.

#### PAPULAR SYPHILID WITH EXTENSIVE ARSENICAL PIGMENTATION. Presented by DR. BECHET.

The patient, J. C., aged 28, was from the service of Dr. Trimble at the University and Bellevue Clinic. He stated that four months previously he had had an indurated lesion between the index and middle fingers of the right hand. He denied ever having had a penile lesion. One month after the lesion appeared on the right hand, a generalized eruption, with mucous membrane lesions, made its appearance. For three and one-half months he took, regularly, a mixture composed as follows: Liq. kalii arsenitis, 2½ drams; syrup of sarsap. comp. q. s. ad. 3 ounces, of which the dose was 1 dram three times daily after meals, so that for fourteen weeks he took an average of

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\* The report of the biopsy which was made by Dr. D. S. D. Jessup (Oct. 31, 1917), was as follows: The section was taken from an active lesion. There was slight hyperkeratosis, some intercellular edema in the stratum mucosum with extracellular pigment here and there between the spine cells and also occasional large cells containing pigment. There was no acanthosis and the pegs were normal in length.

18 drops of Fowler's solution daily. He noticed a gradual darkening of the skin, increasing steadily up to the time he appeared at the clinic. He presented for examination an extensive, dry, papular eruption covering the entire body; so dry were some of the papules at the elbows that psoriasis was thought of. There were some moist papules in the mouth. The entire skin was deeply pigmented, some areas being darker than others. There was slight beginning keratosis of the palms. The pigmentation was much more marked in the surrounding areas of healthy skin than in the lesions themselves. The Wassermann reaction was strongly positive.

#### CHARCOT'S KNEE. Presented by DR. PAROUNAGIAN.

The patient, P. F., was a man, aged 28, born in the United States, a truck driver by occupation. He contracted a chancre eleven years ago and was treated until the sore healed. Two years later he had skin manifestations for which he received some treatment for a limited time. In April, 1917, a case fell on his right knee and the following morning he noticed a swelling which persisted since. The examination revealed a very marked swelling extending from the lower third of the right thigh down below the knee joint. There were no signs of inflammation, no redness and no pain. The skin was normal, exhibiting distended veins in the affected area and no pitting was present. He had a positive Romberg, Argyll Robertson pupils and the knee reflexes were absent. The Wassermann reaction was strongly positive. Roentgenograms were taken, though the description of the plates was not available at the time of presentation.

#### DISCUSSION

DR. WISE asked for a definition of Charcot's knee and also desired to know the character of the anatomic changes.

DR. SCHEER said that the term Charcot's joint was applied to a clinical entity characterized by a disintegration of the structures composing a joint—most often the knee—due to trophic disturbance. It occurred most frequently in tabetics. The onset was usually sudden and there was no pain. The clinical appearance in cases of short duration was well exemplified in the patient presented. In the later stages the articular effusion and the periarticular edema was absorbed; in addition there was absorption of bone and relaxation of ligaments resulting in extensive range of motion and deformity.

DR. WISE said that he would be inclined to make a diagnosis of gumma of the lower end of the femur.

DR. MACKEE said that the roentgenographic findings were simply osteitis. It seemed to the speaker that the diagnosis should be cleared up by roentgenographic means. As a rule syphilitic, tuberculous and pyogenic osteitis, periostitis and sarcoma could be differentiated by the roentgen ray. Syphilis usually showed a very marked thickening of the periosteum whereas in an ordinary pus infection of the bone, the periosteum was leveled off rather than thickened. This was also true of tuberculous infections. In addition, the latter usually involved the epiphyses. The roentgenographic findings of Charcot's joint were simply a disappearance of bone with spontaneous fracture. Sarcoma usually showed a large bony tumor of very slight density.

#### CASE FOR DIAGNOSIS. Presented by DR. ROTHWELL.

The patient was a white man, a cigaret maker by occupation. He presented an eruption, generalized from the neck to the middle of the thighs, and over the arms, forearms and backs of the hands; this was of papulosquamous character, with a dull red or brown color in the papules which were generally smaller than pea-sized, round or oval in outline, infiltrated; less than half of the whole number were capped by scale formation, some of the scales appearing dry and white and grayish, some appearing greasy, and



many of them wrinkled. Three small, nonscaly papules were present on the upper eyelids. The greatest scaliness was present on the neck where the lesions were small (pea-sized), and on the forearms about the flexor surface of the elbows, where some lesions were as large as a silver quarter. The scales were attached at the borders where shedding had taken place, and those in the vicinity of the elbows (flexor surface) were of the dry, white character.

*History.*—The patient had a genital sore in 1907, which was diagnosed as chancre and which was not followed by an eruption, as far as he knew; he was treated for a few months with pills by mouth and, in 1909, received two intramuscular injections of arsphenamin (salvarsan). He had been married since then, his wife had had no miscarriages, but had three healthy children, two of which were 10 months old and weighed 20 pounds each. The eruption had been present seven weeks and the Wassermann reaction was negative when the eruption was two weeks old. There were no subjective symptoms except slight itching when he became warm. The Wassermann reaction was negative also at the time of presentation to the Section.

#### DISCUSSION

DR. KINGSBURY said he would regard the case as one of syphilis regardless of the history and of the negative laboratory findings.

DR. WISE said that being a strong believer in the interpretation of the Wassermann test, especially in early syphilis, he could not agree with Dr. Kingsbury although he admitted that the eruption markedly resembled syphilis. A good many of the lesions suggested pityriasis rosea and this disease—a fact to which attention was called by Dr. G. H. Fox—sometimes occurred in the papular form. Some of the lesions, especially those of the neck, looked very much like psoriasis. The speaker's clinical diagnosis rested between psoriasis and pityriasis rosea.

DR. THRONE said that he agreed with Dr. Kingsbury.

DR. REMER said that the papules when scratched yielded micaceous scales. He therefore thought that it was a case of psoriasis guttata.

DR. PAROUNAGIAN agreed with Dr. Remer. Two negative Wassermann reactions would not occur in early syphilis. While the eruption resembled syphilis, he was in favor of a diagnosis of psoriasis.

DR. MACKEE agreed with Dr. Wise but favored the diagnosis of pityriasis rosea. The disease began with a single lesion which persisted for a week before the eruption became general. While the eruption was usually papular, yet many of the lesions were circinate scaly macules, highly suggestive of pityriasis rosea.

#### CASE FOR DIAGNOSIS. Presented by DR. GOODMAN (by Invitation).

The patient was a man, aged 26. He worked about a florist shop but had little to do with the heating plant of the establishment. He noticed the lesion on his right arm four days prior to presentation. This lesion in every way simulated a recent third degree burn. He had no recollection of an injury or burn and there were no hot water bags or other source of heat taken to bed the night before the appearance of the lesion. The lesion was not painful. This was the fifth attack of such lesions that the patient had had. The first came four years ago, and each year since, he had had fresh outbreaks. One attack came in the summer, the others all appeared in the winter. The scars of the former lesions were present and they all were on the right arm and forearm, except one that was over the right scapula. The patient was right-handed. He was not subject to fainting spells or epileptic seizures. His parents were living and well and he had four healthy brothers. No member of the family was afflicted with any skin disease. The patient was married

and his wife was healthy and they had one living child. There were no other pregnancies. The patient was first observed the afternoon of presentation and no laboratory data were available.

## DISCUSSION

DR. OULMANN said the boy being employed in a florist's shop and handling plants was afflicted with a dermatitis venenata.

DR. WISE said that the first diagnosis that came to his mind was dermatitis factitia. The patient, however, was a healthy man who was not hysterical nor neurasthenic. The speaker admitted it was difficult to make any other diagnosis but suggested that the lesions were not self-inflicted.

DR. KINGSBURY said that Dr. Wise had covered the case very thoroughly. The clinical picture was that of a severe burn.

DR. BECHET thought that despite the history it was a traumatic dermatitis resulting from a burn of some kind.

DR. SATENSTEIN (by invitation) said that the patient had a total anesthesia of the right side and suggested that the lesion always occurred on this side because it caused no pain.

PARAPSORIASIS EN PLAQUES (?). Presented by Drs. MacKEE and WISE.

D. L., a man, aged 42, was a native of Russia, and applied at Dr. Fordyce's clinic on Aug. 6, 1917. The duration of the skin disease was one year. He presented a large number of yellowish plaques, and small macular elements, the lesions varying in size from a lentil to patches several inches in diameter, and coalescing on the back and forearms. Some of the smaller lesions were pink to reddish in tint and a few of them presented a distinct infiltration and a slight elevation above the normal skin. A few of the lesions were slightly scaly and several of them presented a parchment-like wrinkling of the skin, more especially those on the abdomen. Itching was moderate in severity.

Histologically, the tissue presented an interstitial and parenchymatous edema, intra-epidermal vesicle-formation, moderate hyperkeratosis. There was a moderate inflammatory reaction in the papillary bodies and the cutis, and a slight infiltration of round cells. There was no evidence of mycosis fungoides.

## DISCUSSION

DR. MacKEE thought it was mycosis fungoides on account of the multiform character of the lesions, the fact that they underwent a change in appearance from time to time, and also because there was considerable pruritus. He had seen the patient some time previously and the eruption then looked like a seborrheic dermatitis. The histologic picture at that time was not characteristic of any affection. It seemed to be a simple inflammation.

DR. WISE said that Dr. Heimann had asked him to report on his case of granuloma annulare which was presented at a recent meeting. The large lesions received 1 H. unit of roentgen ray at skin distance and the small lesions received one quarter of this amount. The lesions entirely disappeared as a result of this treatment. Subsequent to the roentgen-ray treatment of the skin of the hand, the patient developed a gumma of the soft palate. The patient had, then, two diseases, syphilis and granuloma annulare.

DR. WISE reported on another case that Dr. Heimann presented at a recent meeting. It was a case of colloid milium. The histologic examination, made subsequent to the presentation of the patient, confirmed this diagnosis. The main feature was a widespread colloid-like degeneration in the cutis.

DR. ROTHWELL reported on the young lady presented at the last meeting by Dr. Trimble. It was a case for diagnosis with lesions on the nose. The

diagnosis rested between lupus erythematosus and sarcoid. Since the last meeting a biopsy had been made and the histology showed a tuberculous structure similar to that found in Boeck's sarcoid.

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NEW YORK ACADEMY OF MEDICINE, SECTION  
ON DERMATOLOGY

*Regular Meeting, Feb. 5, 1918*

GEORGE M. MACKEE, M.D., *Chairman*

ATROPHODERMA MACULATUM ET STRIATUM. Presented by DR. ROTHWELL.

The patient, a white woman, aged 33, presented on the sides of the neck, chest, mammae and over the deltoid region of the arms, glistening whitish streaks and spots of about one-eighth to one-quarter inch diameter, about level with the general skin surface, with apparent thinning. There were no subjective symptoms.

The patient stated that the condition started three years previously after the subsidence of a hair dye dermatitis; that subsequent to the hair dye dermatitis, she had recurrent attacks of erythematous eczema, and that the condition had become increasingly noticeable.

DISCUSSION

DR. HEIMANN said he did not see any macular atrophy.

DR. ROTHWELL said he did not observe any macular atrophy on the night the patient was presented, under artificial light, but in daylight the atrophic changes were readily manifested.

DR. GILMOUR said he thought the lesions might be due to pernio from exposure to cold but the patient had had the condition during the entire year.

DR. WISE said he would accept Dr. Rothwell's conception of the case. There were no evidences of distended linear lesions, but the change consisted rather of an atrophy of the skin, occurring in lines—a cutaneous atrophy not due to mechanical stretching of the skin.

DR. HEIMANN said he could not conceive of any great difference between the lineae distensae where there had been increase in the dimensions of the body, and macular atrophy. The only difference between the two was that macular atrophy was idiopathic. Lineae distensae were caused by well-known mechanical factors. Pathologically the case was the same. Both were due to loss of elastic tissue. Whether it was the linear form of macular atrophy or lineae distensae did not make any difference. The other features, those alluded to by Dr. Gilmour, represented a condition that had been described by Brocq a year or two ago. Brocq had described a triangular dermatitis of the neck due to exposure; whether hot or cold. It was dermatitis caused by dilatation of blood vessels. This was the condition on the woman's neck.

PAPULO-NECROTIC TUBERCULID ASSOCIATED WITH ERYTHEMA INDURATUM AND SCROFULODERMA. Presented by DR. CHARGIN.

D. B., a woman, aged 34, was the mother of three apparently healthy children; no miscarriages; admitted infection with gonorrhea but denied infection with syphilis.

The trouble for which she was presented began one year ago with adenitis of the neck. The glands softened and were incised. About this time subcutaneous small nodules appeared on various locations of the body, followed later by larger and deeper nodes on the legs.



With the exception of the head, hands and feet, the patient presented pinhead to pea-sized nodules or the remains of former nodules (slightly depressed, somewhat pigmented scars) over the entire body, there being few on the upper part of the body and extremities but rather thickly studded over lower back, buttocks and thighs. The lesions were in various stages of evolution and involution. On the lower extremities, especially the left leg, there were several 10-cent to penny-sized, depressed, pigmented scars where formerly erythema induratum lesions existed. On the right side of the neck there were hypertrophied, red, linear and irregular scars at the site of former glands. There were also several unbroken indurated glands palpable in the neck.

## DISCUSSION

DR. SCHEER said that the association of the three affections in this patient suggested a common etiologic factor—the tubercle bacillus for all.

DR. LANE said that if we could constantly demonstrate tubercle bacilli in papulo-necrotic tuberculid it was time to take it out of tuberculid class and classify it as tuberculosis.

DR. HEIMANN said it was a beautiful case for reasons which had been pointed out. Tuberculids were due to one of two causes—either tubercle bacilli, or their toxins. Some investigators had demonstrated bacilli through animal inoculations and others, microscopically. Various types of tuberculids were related to tuberculosis as gummas were to syphilis. The body becomes capable of inordinate local inflammatory reaction as a protective measure. The whole thing was an immunological process. If we looked at it in this way we could understand finding tubercle bacilli. The speaker thought it would be better to call the entire process bacterial or toxic tuberculosis as the case might be.

DR. CHARGIN said that the most important features had been brought out by the several gentlemen that discussed the case. The case was exhibited to show the association of a tuberculid with Bazin's disease and tuberculous glands. Concerning etiology, it might be said that although the tuberculids were generally recognized as of tuberculous origin, the tubercle bacilli stained by the ordinary method were but rarely found but that degenerated forms of the organism (Much's granules) had been recognized by special staining methods. The speaker also said that tuberculin was quite efficacious in Bazin's disease as also in the treatment of tuberculous glands.

DR. BECHET said that he was under the impression that Dr. MacKee had used tuberculin in a great many cases of papulo-necrotic tuberculid, and perhaps Dr. Wise could tell of his results (Dr. MacKee being absent).

DR. WISE said that Dr. MacKee's results with tuberculin were poor although some European men had reported good results. Most of the men treated papulo-necrotic tuberculid with "mixed treatment" with good results.

## NEVUS VERRUCOSUS. Presented by DR. ABRAMOWITZ.

The patient was a girl, aged 4 years. She presented a skin lesion which had been present since birth, and which was situated on the left side of the neck from the medial line to the sterno-mastoid muscle. It was the size of an adult palm and was covered completely with warts. Otherwise she was in good health. Carbon dioxid snow was the treatment which would be employed.

## DISCUSSION

DR. WISE said that the case was presented to show the appearance of the lesions before carbon dioxid snow was given. They expected to show the case again after it had been treated.



## ULCERATION OF THE TONGUE. Presented by DR. SAUER.

The patient was a colored man, aged 39, a laborer by occupation. He gave a history of having had an ulcer of the tongue from September, 1916, to February, 1917, which healed and remained well for five months. In June, 1917, another lesion appeared on the site of the old lesions and gradually grew larger until August, 1917, at which time the Wassermann reaction was found to be +++ and he presented a typical gumma of the tongue. Intensive treatment with arsphenamin (salvarsan) and mercury salicylate showed such immediate and remarkable improvement that he absented himself from all treatment for two months, during which time he went to his home in the South. When he returned he presented very much the same clinical picture that he did before any treatment was given. Intensive treatment was again administered and the condition improved after which he again absented himself until the latter part of January, 1918. When he was presented to the Section the lesion looked worse than at any time previously and the question was as to the probability of a malignancy on a gummatous base and the justification of a continuance of antisyphilitic treatment, without immediate surgical interference. The patient had lost weight in the past seven months. He suffered comparatively little pain. He had a little local glandular involvement and the Wassermann reaction was +. The patient had received eight arsphenamin and an equal number of 1 grain mercury salicylate injections, and although he improved markedly after each course of treatment he was very indifferent and uncontrollable.

## DISCUSSION

DR. HEIMANN said that if the condition were only a gumma it would be well by this time. The patient had interstitial glossitis. He had epithelioma also. The speaker said that insofar as he was concerned, if the case did not respond to antisyphilitic treatment he would assume that it was carcinoma. The procedure after that was excision. He would cut out a piece of tissue and examine it immediately. Waiting from September to February, he said, was waiting too long as the condition had probably metastasized in the glands already.

DR. LANE said that he agreed with Dr. Heimann, and that it might not be out of place to refer to Jonathan Hutchinson's opinion of such cases. He said "that ten days' treatment (with vigorous mixed treatment) ought to make any disease of a wholly syphilitic nature assume such a change of appearance that it would be impossible to doubt. If at the end of that time there is still room for question, it will, in nine cases out of ten, be best to operate." With the additional methods of diagnosis and treatment now at our disposal, a definite diagnosis should be possible in almost every case within the ten day limit set by Hutchinson.

DR. WISE said he saw the man at the Vanderbilt Clinic two months ago. At that time they thought he had cancer and enlarged glands (metastases) and sent him to the Presbyterian Hospital to be operated on. He had improved wonderfully since that time. The speaker said he did not know whether it was cancer or syphilis but thought it was syphilis. He thought a biopsy was advisable.

DR. SATENSTEIN said that when he saw the case two months ago the ulceration was opposite the molar teeth. On the evening of presentation, he found that it had approached to the canine teeth, but the base of the lesion appeared much cleaner. Dr. MacKee refused to allow a biopsy and as Dr. Wise said, sent him to the Presbyterian Hospital for operation. The speaker considered the lesion as an advancing carcinoma on the base of a broken-down gumma.

DR. CHARGIN said he thought the lesion was syphilitic and not cancerous. The serpiginous configuration spoke for syphilis; there might be epithelioma developing in the base of these ulcerated areas especially in the lesion on the

upper surface of the tongue, but the patient should first have the benefit of thorough antisiphilitic treatment before operative procedure was undertaken.

DR. HEIMANN said that everybody had agreed that it was either cancer or gumma. While the dispute was being settled the patient was probably succumbing to cancer. If it was gumma he would not be any worse off if a piece of tissue were removed and examined and the result would be known in a few minutes. If it was cancer it was up to the surgeon to decide whether or not there should be an operation. It was very well to say that the only treatment was antisiphilitic—but what good would it do if he had cancer.

DR. BECHET said that if the condition was a specific one, it would seem as though the treatment the patient had had would have cleared it up entirely; as it was, the lesion was very extensive, presenting fungoidlike ulcerative masses, and considerable loss of tissue. He considered the diagnosis of carcinoma as the probable one.

DR. CHARGIN asked if the tongue condition had improved as a result of the treatment recently taken.

DR. SAUER replied that he had improved, clinically, since the last treatment.

#### PARAPSORIASIS IN PATCHES. Presented by DR. WISE.

The patient was a man, aged 48, whose history was entirely negative. He presented about a dozen smooth, pinkish to reddish, faintly scaling plaques, situated on the abdomen, upper and lower extremities. They varied in size from that of a child's palm to 7 or 8 inches in diameter. There was no itching or other subjective symptoms. Treatment was of no avail. The duration was six years.

#### DISCUSSION

DRS. HEIMANN, LANE and CHARGIN agreed with the diagnosis.

#### ACRODERMATITIS CHRONICA ATROPHICANS. Presented by DR. WISE.

The patient, a married man, aged 66, presented himself at Dr. Fordyce's clinic on Jan. 15, 1918, showing a clinical picture as follows: His hands and feet were markedly cyanotic in appearance, especially pronounced from the fingers to the wrists and from the toes to the ankles, gradually fading and becoming less evident as the condition spread upward toward the elbows and knees. The ulnar aspects of the arms presented a reddened skin, which felt smooth and velvety with some suggestion of beginning atrophy. A similar condition was present on the anterior surface of the legs. The skin of his feet and hands was distinctly atrophic and parchment-like in appearance. His right hand presented a diffuse edema, causing a swelling of the back of the hand. There were marked varicosities in both his legs. The patient denied venereal infection. This condition had been present for one and a half years before his admission to the clinic. A Wassermann test of his blood done on the day of admission proved negative.

#### DISCUSSION

DR. WISE called attention to the edema of the hands, with large nodular formation which was the way that some of these cases began. The man had lesions for several years. The edema did not respond to ordinary treatment. The speaker said he expected that later the skin would become wrinkled and that the veins would show through the skin as they did in long standing cases.

#### ALOPECIA AREATA UNIVERSALIS. Presented by DR. SCHEER.

The patient, an Italian, single, aged 34, a cook by occupation, had always been in good health. The loss of hair began Sept. 18, 1917. The defluvium began on the left side of the chin; then in rapid succession the hair fell out

from the rest of the chin, moustache, scalp, eyebrows, eyelashes, arm pits, breast, extremities, pubic and anal regions, in the order named. The alopecia was complete in three weeks. The Wassermann test, taken Oct. 6, 1917, was negative. The physical examination, except for a bad pyorrhea alveolaris, was negative.

**CASE FOR DIAGNOSIS.** Presented by DR. ROTHWELL.

The patient, a white man, aged 42, presented a spot of typical erythematous lupus on each malar eminence with atrophy and adherent scales, the lesions having been present for three years.

In addition there was an irregularly outlined nodular infiltration on the right buttock, over the surface of which there was an irregular line of atrophy about one-quarter inch broad; there was also some scaling over the atrophy in this region. The buttock lesion had been present one and one-half years.

There was no history of family tuberculosis, the Wassermann test was negative, and the laboratory declined to report on a biopsy specimen that had been submitted as unsatisfactory for diagnosis. Later an elliptical section of skin removed by scalpel had been submitted for microscopic examination, but no report had yet been made thereon.

DISCUSSION

DR. ROTHWELL said that the patient had lupus erythematosus of the face three years. He told them of "a lump" in one buttock. On the right buttock there was a nodular mass. While making a biopsy they were told by the operator that the punch went through the skin but he felt he was not getting all that was there. The report was that they wanted another specimen. The speaker said he obtained a piece of skin meaning to go through the nodular formation which was beneath or in the skin, but when he got through the skin the knife grated on calcareous material which did not come out with the skin piece. On account of the patient having had lupus of the face and that nodular formation on the buttock, and recalling another case with nodules over the hip and body and scars on the scalp which looked like lupus erythematosus scars, but in which case the biopsy showed sarcoid, the speaker said it occurred to him that this might be a case of sarcoid of the subcutaneous type. The microscopic report had not yet been received. There was no family history of tuberculosis and the Wassermann test was negative.

DR. HEIMANN said he did not know that much could be added. The lesions suggested either sarcoid of the Darier type or localized scleroderma. It seemed more like sarcoid. It was interesting to hear the remarks in regard to calcareous deposits. The speaker did not know of any case in the literature in which calcareous deposits had been noted. The condition seemed too hard for sarcoid. He thought the diagnosis would depend on the microscopic examination. Clinically he would lean to sarcoid.

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**NEW YORK ACADEMY OF MEDICINE, SECTION  
ON DERMATOLOGY**

*Regular Meeting, March 5, 1918*

GEORGE M. MACKEE, M.D., *Chairman*

**ACRODERMATITIS CHRONICA ATROPHICANS.** Presented by DR. WISE.

A. D., a married woman, aged 34, a native of Galicia, presented a disease of fifteen years' duration. The family and personal histories were negative. The Wassermann test was negative. The disease affected both lower extremities;



the right leg presented a sclerodermatous change, extending entirely around the ankle and lower third of the leg. Above this, the skin was thin, atrophic and velvety. The veins shone through the skin very prominently. The atrophy involved the skin of the thigh and the buttock, up to the iliac crest. Similar changes affected the opposite limb, but the atrophy extended only to the middle of the thigh. Both knees exhibited the characteristic anetoderma, or "cigaret paper" wrinkling and redundancy. The skin of the forearms was slightly atrophic and adherent to the underlying tissues. (The right hand was contracted and deformed from a burn which the patient had suffered in her childhood.)

**SYPHILITIC REINFECTION.** Presented by Drs. GOLDENBERG AND CHARGIN.

P. L., aged 23, married, presented himself on June 9, 1917, with a chancre of the left corner of the lower lip and contiguous upper surface of the tongue. The lesions on the lip and tongue were both indurated and the submaxillary glands were markedly enlarged. The patient stated that the lesions had been present five weeks. There were a few scattered but typical papules over the body. A Wassermann test made on the day of this visit was + + + +, although a test which had been made nine days prior to this visit was negative. The patient was treated with the intensive combined method, receiving during the first week three arsphenamin injections, consisting of 0.4 each (total of 1.2 gm.) and two mercury salicylate injections (total of 2 grains). During the following three weeks, an additional two arsphenamin and three mercurial injections were given so that the patient received a total of 2 gm. of arsphenamin and 5 grains of mercury salicylate in a period of four weeks. One month after the last treatment (Aug. 7, 1917) the Wassermann reaction was negative. On Feb. 28, 1918, the patient reappeared at the clinic, after an absence of about six months, with sores on the penis of from three to four weeks' duration. On the upper surface of the shaft of the penis, beyond and involving the sulcus as well as the margin of the corona, there was a 10-cent piece sized, roundly irregular sore with typical cartilaginous induration. The surface of the sore was not broken. On the under surface of the shaft, beyond the frenum, there was a pea-sized denuded papule which was somewhat indurated. Five slides were examined for spirochetes by the dark field and a single but characteristic spirochete discovered. The patient showed typical inguinal adenopathy. There was no evidence of secondary eruption on either the skin or mucous membrane. The Wassermann was + + + +. The patient admitted that he had had repeated sexual contact with several public women.

**DISCUSSION**

DR. POLLITZER asked Dr. Chargin to describe the lesions as they were when he first saw them.

DR. CHARGIN said when he first saw the lesions they looked exactly as they did on the evening of presentation to the Section. They were the size of a 10-cent piece and were not ulcerated. A single spirochete had been found by the dark field—five specimens having been examined.

DR. POLLITZER said that this case certainly had most of the elements necessary for the establishment of a diagnosis of reinfection. The man had had undoubted syphilitic infection on the lip six or eight months ago, was treated and the Wassermann test became negative. Later he returned with a lesion on the penis which had the appearance of an initial lesion. The one important factor that was lacking to complete the chain of evidence was the proof of a Wassermann reaction continuing negative from a time following the first treatment up to a week or two ago, when it may again have become positive in consequence of the fresh infection. It was too late to get this information and the Wassermann positive proved nothing. If he had a negative Wassermann two weeks ago, shortly after the appearance of the recent lesions, becoming positive later, even the paucity of the spirochetes would have no weight at all



and we would have been sure we were dealing with reinfection. A number of slides showed only one spirochete whereas we might expect to find a large number of spirochetes in an initial lesion. In the case of syphilis, however, one swallow does make a summer and there could be no doubt but that the lesions were syphilitic, but why had we not found more spirochetes? The speaker said he would take it for granted that the technic was correct but it must not be forgotten that the lesions were four weeks old, that they had epidermized and that it had been necessary to break through the epidermis to get to the lesion below. One would not expect much in the way of spirochetes in an examination of this kind. Although the proof was not complete in the absence of a Wassermann examination at the time the lesions began, there was fairly good evidence for the conclusion that we were dealing with a case of reinfection. The further course of the case, if it was left for the present without treatment, would probably throw a conclusive light on the question.

DR. LAPOWSKI said he thought the men did not realize the importance of this subject. It was the most important question that came before any medical society. "If the Wassermann reaction had been negative before the man had the second chancre, while positive after the appearance of the second chancre, that would clinch the point that it was syphilis," as stated by Dr. Pollitzer. The speaker said he could not see any reason for that statement. Dr. Pollitzer ascribed in his statement too great a value to a negative Wassermann reaction and did not take into consideration the fact that a negative Wassermann test which was in existence for several years may change into a positive Wassermann without the appearance of any external manifestations. Such cases were known and had been published.

DR. GOLDENBERG said that when the patient came to his clinic, a few days before he was presented to the Section, he and Dr. Chargin, in discussing the case, were more inclined to take the view that they had to deal with chancre from papules (solitary secondary affect) in an old syphilitic. Dr. Chargin was prepared to present the case as such, but at the speaker's request, at the last minute, it was put down as a case of reinfection with a "question mark." Every one of the gentlemen who examined the patient on the evening of presentation concluded from the clinical appearance of the lesions that we had an initial lesion to deal with. This applied especially to Dr. Lapowski. The patient had a labial chancre with secondaries eight months previously and received five arsphenamin and five mercury injections in six weeks. One month later his Wassermann test was negative. It was true that "every chain of evidence is only as strong as its weakest link" and that weak link was the fact that we did not see the patient after the first course of treatment until a few days before presentation, when he returned from Philadelphia with two lesions on the penis, one in the sulcus coronaris in the form of a typical cartilaginous chancre, and one on the lower surface of the penis in the form of an indurated sore. These lesions followed promiscuous intercourse and were accompanied by bilateral indolent lymphadenitis, general malaise and pain in the back. No secondary eruption was present. The Wassermann reaction was +++++. The case, to all appearances, was a case of reinfection but, nevertheless, the speaker expressed his skepticism about similar cases having been reported in the literature as cases of reinfection. The fact that in five specimens for spirochetes only one organism was found with the dark-field examination, might be explained by the possibility of the local application of something to the sore, as the patient had been to a dispensary in Philadelphia before coming to the clinic, and although he denied that anything was applied, it was possible that something had been used.

DR. LAPOWSKI said that his first impression was that it was a hard chancre as the hardness was so pronounced, but after more careful examination he pointed out to Dr. Chargin certain peculiarities of the lesion; namely, the papular border, the dumb-bell shape of the lesion, the softness of some of the

papules on the edge of the sulcus and the serpiginous aspect of the lesion. These peculiarities did not speak for an *ulcus durum* but rather for a late lesion in an early period of syphilis and this irregular course of the syphilis in this case might be due to the severe arsphenamin treatment the patient received in the early stage of the disease.

DR. GOLDENBERG said that it remained a fact that Dr. Lapowski unhesitatingly stated when he was shown the case that it was a chancre. Only after he was told of the possibility of reinfection he questioned and retracted this diagnosis.

DR. HEIMANN said he thought he saw the point raised by Dr. Lapowski. He seemed to think it unlikely that primary lesions should have an interrupted border, if we meant from the clinical standpoint that primary lesions must be single. In this case we had multiple primary lesions which were confluent. This would, of course, have eventuated in an irregular contour as in this case. The philosophical aspect of the case was whether it was superinfection, reinfection or a papule in the secondary stage. He thought it was not secondary on account of the hardness. He regarded it as a primary lesion but did not know whether it was reinfection or superinfection.

DR. CHARGIN said that the first chancre was on the lip and tongue. He asked if the patient, instead of developing an early secondary eruption, developed one belonging to the later secondary period, what interpretation would be placed on the case.

DR. GOLDENBERG said in his opinion even the appearance of a macular eruption would not prove with certainty that we had to deal with a reinfection. He cited a case of a patient with late syphilis who developed two chancriform papules on the penis with a characteristic universal macular eruption seen and confirmed by a number of colleagues, among others Dr. Pollitzer. This man, an absolutely truthful patient, had not been exposed. The eruption, it was stated in the literature, in late cases was a large macular syphilid, not the ordinary roseola.

DR. LAPOWSKI said he believed this patient would develop a very severe case of syphilis. In the cases that received intensive treatment by arsphenamin in the early—for instance, in the primary or early secondary stages—the course of syphilis was liable to change to the disadvantage of the patient, late lesions appearing in the early period of the syphilis. It would be interesting if special attention was paid to such cases and material gathered for future use. This patient was surely not in a better condition for the treatment he received.

DR. POLLITZER said that Dr. Lapowski's remarks were based on the assumption that we were dealing in this case with an early tertiary manifestation and that the tertiary lesion had appeared early because the patient had been treated with arsphenamin. He found in this circumstance an objection to the use of arsphenamin. The speaker said he did not share this opinion. If it was true that the early use of arsphenamin brought about some change in the spirochete or in the patient in consequence of which tertiary lesions developed sooner than they might have developed if arsphenamin had not been used, he could see in that fact only a distinct gain in that the dangerous infective lesions of the secondary period were avoided. But the conclusion that Dr. Lapowski drew that arsphenamin was a dangerous remedy because early tertiary lesions sometimes followed its employment, was to the speaker's mind a remarkable piece of inverted logic. This patient did not get his present lesion because he received arsphenamin, but manifestly because he did not get enough arsphenamin. If he had been adequately treated, if he had not neglected to return to his physician after his first and only course of treatment, he probably would not have had any further lesions whatever. The best remedy for syphilis was arsphenamin and the best way to avoid the lesions of syphilis is to give enough arsphenamin.

DR. LAPOWSKI said that it could only be proved by time if he was right or Dr. Pollitzer was wrong. Dr. Pollitzer based his statements on assumptions that time alone could prove.

DR. POLLITZER said his opinion was based on the fact that he had a very large number of syphilitics who had been intensively treated and who had been discharged cured and had remained cured for periods of five or six years.

DR. LAPOWSKI said, in referring to Dr. Pollitzer's remarks, "that the patient did not get his lesion because he received arsphenamin but because he did not get enough"—he would like to know what was considered to be enough arsphenamin. If the results were satisfactory, the mildest treatment was enough but if the results were unsatisfactory, the severest treatment could be claimed not sufficient.

#### ANGIOMATOUS NEVUS UNDERGOING ULCERATIVE RESOLUTION.

Presented by DR. ROTHWELL.

The patient, a white female infant, aged  $3\frac{1}{2}$  months, presented on the left buttock an ulceration about the size of a silver dollar in circumference and about one-half inch at its deepest point; the lesion had been present two months, and also a smaller, faint, spider nevus of about dime-size at the crest of the left ilium. The mother stated that until the ulcerative character appeared the buttock lesion had been similar to the nonulcerated lesion at the crest of the ilium.

#### DISCUSSION

DR. POLLITZER said cases of this kind were very rare. Angioma occasionally sloughed in this way as the result of an injury that produced clotting in the dilated vessels and the clot becoming infected sloughed out, the final result being a spontaneous cure of the angioma with scarring.

DR. ROTHWELL said the mother had stated that there had been no elevation above the surface and its size was about the same as when the case was shown. She also stated that the cavity formed one week previous to presentation.

#### GEOGRAPHIC AND SCROTAL TONGUE. Presented by DR. PAROUNAGIAN.

The patient, N. M., a man, aged 26, was born in Turkey. The duration of the tongue condition could not be ascertained as the patient had not noticed it before. The case was referred from the tuberculosis clinic as it was considered a possible case of tuberculosis of the tongue. Venereal history was denied and the Wassermann and tuberculin reactions were both negative.

The tongue was markedly furrowed and studded with a number of circinate patches, with grayish borders, the edges of the organ being mostly involved. The patient had no subjective symptoms excepting slight smarting when eating acids.

#### DISCUSSION

DR. GOLDENBERG said that this combination was not unusual. He had seen a number of such cases.

#### SCROFULODERMA. Presented by DR. WISE.

J. D., a boy, aged 13, applied at the Vanderbilt Clinic for the treatment of a crusted lesion of the left temple, which had been present since nine months. The patch was about the size of a 5-cent piece and presented an adherent central crust, surrounded by a slightly depressed zone of atrophic skin, about one-eighth inch in width. On pressure, a small amount of pus was seen to arise from the lower end of the patch.



## MILIARY PAPULAR SYPHILODERM. Presented by DR. PAROUNAGIAN.

The patient, F. B., a man, aged 26, widower, born in the United States, had had the eruption about one and one-half months. He did not recall having a chancre. He had had repeated intercourse. The eruption was generalized, reddish brown in color, most of the lesions grouped and situated at the orifices of the sebaceous glands and infiltrated. The eruption was slightly itchy. A careful examination revealed slight erosion about the frenum resembling the remains of a chancre. There was a moderate amount of adenopathy and the throat was slightly sore with exudation on both tonsils; the voice was husky. The lesions on the forearms were squamous and patchy in character resembling psoriasis. The Wassermann reaction was + + + +.

## FOUR CASES OF LEPRA. Presented by DR. THRONE.

The first case was a Greek, aged 40, who had been in the United States six years. The disease was of ten years' duration. He had been under treatment at the Skin and Cancer Hospital for three years and there was marked improvement.

The second case, I. F., aged 25, was born in Jerusalem. The sections showed Hansen's bacillus and the Wassermann test was positive.

The third case, S. R., aged 25, born in Russia, had been in the United States twelve years. The disease started about one and one-half years ago. About one year ago the patient was referred to Dr. Throne by Dr. Sauria of Brooklyn. The patient complained of paresthesia, especially in the left thigh. There were a few infiltrated, brownish, waxy nodules on the thighs and legs. The Wassermann test was negative and the section from which a biopsy was made showed Hansen's bacilli.

The fourth case, G. C., aged 33, born in Island Chios, was a Greek and had resided in the United States ten years. The disease was of seven years' duration. There was an alopecia of the eyebrows with a nodule on the eyebrow and slightly infiltrated plaques on the trunk and limbs. The Wassermann test was negative and the section showed Hansen's bacilli. The patient said his wife, who was in Chios, was also affected.

## DISCUSSION

DR. THRONE said that he had been trying chaulmoogra oil treatment by intramuscular injections, using the formula recommended by Heiser, but had come to the conclusion that it was not sufficient for dispensary patients, who were seen only once a week. One case had only had treatment by ingestion and showed considerable improvement. The Wassermann reaction in two cases was positive and in the other two negative.

DR. TRIMBLE said the main point of interest in one case was the fact that the lesions were limited to the legs. This case did not seem typical from the clinical standpoint alone.

DR. GOLDENBERG said he thought the case referred to by the last speaker, was rather characteristic of leprosy. He made that diagnosis without knowing anything about the case. He said he would like to know if in this case the lesion on the arms was considered macular leprosy.

DR. THRONE said he had not noticed the lesion on the arm until the evening of presentation.

DR. POLLITZER said he asked the Greek, with the lesions on the back, how long he had been in this country and he said two years, whereas on the card a residence of ten years in this country was reported. As a matter of statistics this might be important.



## TUBERCULOSIS CUTIS. Presented by DR. THRONE.

J. A., aged 28, was a Jew, born in Russia. The duration of the disease was twelve years. There was a patch on the left thigh about 4 inches in diameter. There were scars near the lesions which the patient said were the result of stab and gunshot wounds received several years before the lesions appeared and which seemed to have no relation to it. The diagnosis was confirmed by a biopsy.

## DISCUSSION

DR. THRONE said there was a scar on the inner part of the thigh and another about 1 inch away. One was the result of a gunshot wound and the other the result of a stab wound, but they were present several years before the development of the skin condition. The section showed tuberculous structure.

DR. LAPOWSKI said that there were two scars on the body and he was inclined to think that there was a lesion of the same kind which had disappeared and left these two scars.

DR. THRONE said the patient gave a definite history of having been shot. DR. POLLITZER said he would never have called this a verrucous lesion for the simple reason that it was not verrucous.

DR. HEIMANN said that this lesion might possibly show some tuberculosis. He could not understand why there were so many terms to describe one process. He said it was quite likely if we opened a lung and saw different lesions we would have all sorts of terms for tuberculosis of the lung. He would call it tuberculosis of the skin and not bother any further about it.

DR. LAPOWSKI asked how we would distinguish this lesion from lupus erythematosus.

DR. TRIMBLE said that clinically the lesion was typical of that type of tuberculosis known as lupus vulgaris. He said he would hardly be in favor of having the same name represent conditions that were so absolutely different clinically. He thought it would be wise to keep to the titles already in use, to express the different types of tuberculosis.

DR. HEIMANN said that when he read over an exhaustive monograph and saw the names of lupus, tuberculosis verrucosa, etc., which were really all tuberculosis of the skin, he could not see what good there was in having so many different names.

DR. POLLITZER said that he thought we should retain the terms that indicate clinical varieties. We might as well speak of pyoderma or staphylococcia for all dermatoses that were due to pus organisms. Even if an etiologic classification were possible in the present state of our knowledge there would still be need to employ terms to indicate different conditions caused by the same germ.

## ECZEMATIZED RINGWORM. Presented by DR. HEIMANN.

R. H., aged 14, from the Vanderbilt Clinic. He presented a circinate lesion on the back of the left hand and a scaly patch on the palm of the hand, the whole lesion forming one circle with a clearing center on the dorsum. In addition there was another circinate lesion between the fourth and fifth fingers.

## DISCUSSION

DR. GOLDENBERG said that clinically the condition was ringworm.

DR. TRIMBLE agreed with Dr. Goldenberg.

## NECROSIS FOLLOWING SALVARSAN. Presented by DRs. MACKEE and WISE.

The patient, a man, aged 35, entered Dr. Fordyce's clinic the day he was presented to the Section. Three weeks previously he had received an arsphen-

min (salvarsan) injection which caused considerable pain and swelling. Ulceration began one week later. When presented to the Section there were no inflammatory symptoms but there was an ulcer measuring 3 by 2½ inches and deep enough to expose the tendons. The ulcer was situated at the bend of the elbow at the site of the injections

## DISCUSSION

DR. ABRAMOWITZ said that the diagnosis of gumma was made until the patient's history was taken. He said he received an injection which pained him considerably while it was being given, his arm became considerably swollen and an open sore developed within a few days. The speaker did not give this injection of arsphenamin and knows of the necrosis that may follow if this drug is not given properly, but owing to the fact that the lesion had a sharply punched-out appearance, was not painful and showed such remarkable improvement after one injection of mercury salicylate, the possibility of gumma ought to be entertained. It was not unusual for such a lesion to develop at the site of a trauma.

DR. GOLDENBERG said one could only make the diagnosis of a gumma if one wanted to shield the physician who caused the typical arsphenamin necrosis.

MYCOSIS FUNGOIDES. Presented by DR. THRONE.

L. N., aged 48, born in Holland. The duration of the disease was ten years. There were large infiltrated plaques on the legs and thighs, the induration being especially marked at the edges. There was also a granuloma in the popliteal space.

## DISCUSSION

DR. HEIMANN said he went into details with the patient and he said first that he had the lesions ten years and later said from sixteen to twenty years. It was a definite case clinically. It started as a dermatitis and for years the lesions gave no subjective symptoms. Some lesions broke down and others were deep.

## Necrology

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### RESOLUTIONS ON THE DEATH OF JAMES CHEW JOHNSTON, M.D.

The New York Dermatological Society has unanimously passed the following resolutions:

WHEREAS, The New York Dermatological Society has lost a valued member in the death of James Chew Johnston, M.D., who passed away in his forty-eighth year on May 9, 1918, whereby the Society has been deprived of a contributor of exceptional merit to its scientific transactions; and

WHEREAS, The New York Dermatological Society feels that the death of Dr. Johnston has left a void in the ranks of the medical profession, for not only was he possessed of unusual scientific attainments, but for some months before his death he contributed energetic and interested service to the medical department of the American Red Cross in France, supplementing a life devoted in teaching and in practice to his fellowman; and

WHEREAS, The New York Dermatological Society mourns the loss in the death of Dr. Johnston of a colleague possessed of endearing qualities, considerate, kind and courteous, whose genial fellowship and personal friendship were extended to all its members, whose judgment and keen mind made his opinions of inestimable value and constituted him one of the authorities of his day in his special field; therefore, be it

*Resolved*, That the New York Dermatological Society shall extend its sympathy to the family of Dr. Johnston, and express the hope that they may to some extent be consoled for his loss in the splendid record of his life, in the nobility of his death, and in the memory of his many delightful qualities; and be it further

*Resolved*, That these resolutions be spread on the minutes of the New York Dermatological Society, and that copies be transmitted to the family of Dr. Johnston and printed in THE JOURNAL OF CUTANEOUS DISEASES.

For the New York Dermatological Society,

CHARLES M. WILLIAMS, M.D.,  
*President*

GEORGE M. MACKEE, M.D.,  
*Secretary*

# THE JOURNAL OF CUTANEOUS DISEASES

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## Original Communications

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### SOME 'OBSERVATIONS ON KERATOLYSIS EXFOLIATIVA

JOHN E. LANE, M.D.

NEW HAVEN, CONN.

In a recent article<sup>1</sup> Wende described a not uncommon desquamative disturbance of the skin "characterized by circumscribed exfoliating patches of the superficial epidermis, often more or less symmetrically distributed on the palms of the hands, less often on the soles of the feet and occasionally on the dorsum of the hands and feet as well as on the arms and legs," which he named keratolysis exfoliativa.

The excellent description and the cut which accompanies it leave no doubt as to the identity of the affection, which as far as I know, has not been previously described in the literature in English.

I have long been familiar with the affection and have always classed it as *desquamation estivale en aires des mains*, which was described in 1903 by A. Carayon of Dubreuilh's clinic at Bordeaux.<sup>2</sup> At that time Carayon reported four cases, three of his own and one of Dubreuilh's.

For the detailed description of the lesions the reader is referred to Wende's article. I here wish to make a brief comparison of the description by the two observers.

#### TWO FORMS USUALLY DESCRIBED

Carayon describes two forms of the affection; one very common, in which the desquamation is very slight and in which cure takes place in two or three days, though often promptly followed by recurrences;

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1. Wende, G. W.: Keratolysis exfoliativa, Jour. Cut. Dis. **37**:174, 1919.

2. Carayon, A.: Desquamation estivale en aires des mains, Ann. de dermat. et de syph. **4**:283, s. 4, 1903.



the other in which the desquamation is greater and in which cure takes place only after several weeks. This form is also frequently followed by a recurrence.

The two forms are apparently different grades of the same condition, and the description of the more pronounced form is, with some slight exceptions, almost identical with that given by Wende.

#### CLINICAL CHARACTERS

Both observers noted that there is no itching or other abnormal sensation attending or preceding the desquamation; that there are no preceding vesicles and that the smallest unbroken lesions are dry; that manual labor is not a factor in the production of the lesion; that the affection is occasionally associated with other conditions such as chronic eczema, hyperidrosis and dysidrosis, though in most cases it is not so associated; that the lesions frequently resemble those of tricophytosis or of syphilis; that there is no redness or infiltration of the tissues.

The slight differences in the observations are as follows: Carayon described the affection as occurring only on the palms of the hands and the fingers and on the sides of the fingers, stating that it does not occur on the backs of the hands. Wende observed that it also occurs on the soles and occasionally on the backs of the hands.

Carayon stated that the affection occurs only during the summer months, that is, from June to September, inclusive. Wende makes no statement in regard to the seasonal occurrence though both of his reported cases were seen in August. It is not improbable that the affection may occasionally occur at other seasons of the year.

Carayon noted that recurrence in successive summers is frequent and refers to one case in which this took place for five years or more. Wende also noted recurrences, but does not specify the time of year.

#### AUTHOR'S OBSERVATION

During the past few years a considerable number of cases of this affection have come to my notice. All of them were seen in the summer and all cleared up with the approach of cool weather. I remember none in which there was an attendant hyperidrosis or dysidrosis; on the contrary, the skin of the hands was usually rather dry. In several cases seasonal recurrence has been noted, and one individual, a man of about 40, in perfect health, has had marked attacks for four successive summers. The palms have been the most frequent location, but I have also seen it on the soles and occasionally on the backs of the hands as described by Wende.

## TREATMENT

The mild cases are favorably influenced by fatty applications and are a very slight annoyance. In a marked case they are somewhat annoying on account of their appearance, and the application of a mild dose of roentgen ray should prove effective in bringing about a prompt cure, as was the result in one of Wende's cases.

There is so little difference in the description by Carayon and by Wende that it seems probable that keratolysis exfoliativa and *desquamation estivale en aires des mains* are identical.

## LICHEN ACUMINATUS \*

SAMUEL FELDMAN, M.D.

Attending Physician, Cornell Medical College Dispensary, Department of  
Dermatology; Assistant Dermatologist, Lebanon Hospital;  
Assistant Dermatologist, Fordham University

NEW YORK

### INTRODUCTION

The rarity of lichen acuminatus and the opportunity to study a classic example of the disease induces the writer to submit the following recapitulation of the features of the dermatosis together with the report of a case and its histopathologic features.

*Synonyms:* Lichen ruber (Hebra), Pityriasis rubra pilaire (Dévergie), Lichen ruber acuminatus (Kaposi), Lichen acuminatus (Crocker).

*History:* This disease was first described by Claudius Tarral in 1828, but it remained unnamed until 1862, when Hebra described it under the name of lichen ruber. After that period it was reported under different names by various authors.

*Onset:* The eruption may be preceded by a febrile period with headache, chills and fever; by a shorter or longer period of pruritus or urticaria; by an acute circumscribed, patchy or diffuse erythema, edema or eczema; or the rash may appear without any prodromal symptoms.

*Description of the Eruption:* The papule is round at the base, conical or globular at the apex. Occasionally, grouped papules have the appearance of enlarged follicles, like cutis anserina. The papules vary in size from a small to a large pinhead. They may vary in the same individual, being larger on one part of the body than on another. They may be so small as to be visible only with a magnifying glass. The whole eruption may consist of white or chalky-white horny plugs, only slightly raised from the surface with little or no inflammatory areola. This last form is supposed to be characteristic of pityriasis rubra pilaris, but it is quite frequently present in lichen acuminatus, especially in early cases and also in old cases, occurring together with the larger papules.

The color varies from pink to rose, to light or dark, even bluish or brownish red. In the early stages it disappears on pressure, later it becomes more permanent. It may become obscured by scales and horny plugs.

The papules are dry, hard, rough and file-like and on passing a finger over them, they feel like a nutmeg grater. At times, the papules are thread-like or pointy as if chiseled off (Besnier); rarely they are soft, flattened and rounded (Kaposi).

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\* From the Department of Dermatology, Cornell University Medical College.

The center of each papule is capped by a horny plug. The lanugo hair is usually invisible in the affected follicle. Occasionally it is broken off and it appears as a black dot at the apex of the horny plug. The latter pulls out very readily and may leave behind a lanugo hair in the center of a dark red or gray, often moist and rarely bleeding little pit, representing a dilated follicular opening.

Instead of plugs, there are occasionally furfuraceous or lamellar scales covering the papule. The resulting patch then resembles one of psoriasis. The color of the scales is either white, like gypsum, or whitish-gray, yellowish-white, grayish-yellow, sepia-brown or almost black. The scales may be fatty and resemble those of seborrhea (Kaposi).

The papule always retains its original size and never grows peripherally. Confluence never takes place. The disease spreads by formation of new papules which may become so crowded as to efface all intervening space, forming smaller or larger patches, which may assume any shape. On close examination, however, the origin of the lesion from a single papule can usually be disclosed, as there are always to be found discrete lesions about the patch. In some cases, when the infiltration of the interfollicular spaces raises the latter to the level of the follicle, the original primary lesion is not so easily recognized.

The resulting patch is thick, dry, rough and file-like. It is traversed by deep furrows and lines, and is covered with fine white scales. When the latter are removed the surface looks dark or bluish red, even violet and shiny. In some cases the patch is visibly elevated, rough and papillary. When the plugs are removed from a whole patch the surface looks like a sieve (Leukasievitz). Patches are never moist or crusty; never form vesicles or pustules and never ulcerate.

In comparatively early lesions the grouping of the papule follows the general distribution of the hair follicle. Some lesions are irregularly scattered, others appear in closely crowded groups, in circles, half circles, lines and rows, and point out the location of the follicle through their intimate relation with the hairs. As a rule, the eruption is bilateral and symmetrical. It may, however, be linear or unilateral (Hallopeau). At times, it follows the general localization of seborrhea (Wickham).

#### LOCALIZATION

The localization, in order of frequency, is as follows:

1. Extensor surfaces of the extremities; dorsal surfaces of the hands and fingers, especially first and second phalanges, in which locality the papules are arranged in circles and plainly indicate the grouping of the hair follicles; the extensor surfaces of the knees and elbows are often the seat of a layer of thick horny scales—"placards granites"—on a circumscribed red and infiltrated base.
2. On the palms and soles the eruption usually consists of a diffuse patch of hyperkeratosis, sharply marked off from the dorsal surface.



The papule may be discrete, conical or more or less flattened with horny plugs or whitish scales and resemble chalk drops, clavus, even verrucae.

3. The scalp and face may become early involved. On the scalp there is a diffuse redness, covered by white shiny scales, or seborrhea-like scales—"pityriasis capitis" (Dévèrgie).

4. Flexor surfaces of the extremities; on the torso.

5. Genitals; not present as constantly as in lichen planus and hence not as characteristic a site.

6. Papules quite commonly appear on the inner surfaces of the cheeks. There they are usually discrete, but may also form patches.

#### FORMS OF THE DISEASE

The description above given is that of the first stage of the disease and is known as *lichen acuminatus diffusus*. The eruption may remain for years localized to some regions of the body, or an originally widespread disease may recede and leave behind lesions limited to some places.

*Lichen acuminatus universalis* is the name applied to the disease when it has made further progress. The plaques become fused and cover the whole body. The skin is erythematous, deeply infiltrated and covered with fine scales. The natural lines become much exaggerated.

On the scalp the patches are red and are covered with thin lamellar scales or the latter may form one thick shield-like covering. The hair may remain normal or become thinned and atrophied and come away with the removal of the scales. Sometimes the hair, instead of falling, shows an abnormally thickened growth.

On the face the skin is thickened and deeply furrowed. The patient looks senile. The forehead may look leonine; the expression is altered. There may be difficulty in opening the mouth. The upper lids are lagophthalmic, the lower, ectropic. Rhagades appear at the furrows of the nose and behind the ear. Eyebrows and eyelashes as well as hair from all regions of the body have a tendency to fall out. The joints of the fingers are stiffened in the form of a claw. Fissures which bleed and are extremely painful form about the flexor surfaces of the joints. Every motion leads to more cracks in the skin, causing severe pain.

The nails may present various forms of disturbances of nutrition; thickening, curving and fragmentation due to subungual hyperkeratoses. At times, there is an increased growth of the nails. The glands may become enlarged as in all itchy diseases.

*Pityriasis rubra (Dévèrgie)* is a secondary manifestation of the disease, which may mask the symptoms. There is a general erythema remaining for a long time without any thickening, but the skin becomes early covered with minute white scales. The surface looks velvety or shiny, like mother-of-pearl—Taylor's "alligator skin." In rare cases the erythema begins in the interfollicular spaces instead of in the

follicles. It may start as a pityriasis capitis, and it is therefore claimed that pityriasis rubra of the French authors is a separate disease. According to Jarisch, Heller, Rille and others, it is not impossible for scaliness of the scalp to be the first symptom noticed in lichen acuminatus.

*Pityriasis palmaris (Dévergie)* is applied to the disease when it begins as a general hyperkeratosis of the palms and soles.

#### GENERAL SYMPTOMS

In the diffuse form there are no symptoms excepting the itching. In the universal form the patient becomes bedridden on account of contracted joints, fissures of the skin and pain on motion. Extreme itching causes sleeplessness and nervousness. There is loss of flesh and the patient ends in marasmus.

Exacerbations and remissions are common. Acute cases may recede rapidly leaving lesions limited to some area or areas. The future course of the disease is not acute. Acute exacerbations may follow a chronic disease and vice-versa. The eruption may partly or wholly disappear, there being a remission for years. On the other hand, one eruption may follow rapidly after another.

This ability to recede is thought to be characteristic of pityriasis rubra pilaris, but it is known to occur also in lichen acuminatus.

When the lesion begins to heal the papule softens and becomes smaller, the color changes to a brownish or a dirty blue-red. This state of affairs may persist for a comparatively long time. The lesions finally disappear, leaving behind brown pigmentation and scaliness on a smooth surface, long after the papule has disappeared.

#### PROGNOSIS

The prognosis is generally favorable for life. Fatal cases occur more often in universal lichen planus than in severe pityriasis rubra, although fatal cases are not impossible in the latter disease, while in the former many cases recede and are influenced by treatment.

The cause of malignancy is the same as in other exfoliating dermatoses, namely, loss of heat by radiation, loss of albumin from exfoliation, neuroses from irritation and injury to the nerve endings.

#### COMPLICATIONS

Loss of hearing due to thickening of the ear canal. Ectropion and its complications such as pannus leading to blindness.

#### DIAGNOSIS

*Relation of lichen acuminatus and pityriasis rubra pilaris to each other.*

At present, almost all authors agree that the diseases are identical although a controversy as to their identity still exists. The two opinions are lined up as the identists, those that believe both diseases identical and the nonidentists.

## LICHEN ACUMINATUS

## PITYRIASIS RUBRA PILARIS

*Non-Identists.*

Primary lesion always a papule; patches are secondary.

Patches are primary.

*Identists.*

Primary erythema without papules on scalp, palms and soles.

*Non-Identists.*

Nodules are not constantly follicular, some are developed in the cutis. They never lack inflammatory signs. Hyperkeratosis is secondary.

Are always follicular. May lack all inflammatory signs and present only a horny plug. Lesions are primarily epidermic.

*Identists.*

Nodules are not always follicular. They occur in the sweat gland ducts. Inflammation is present though mild. Both originate in the cutis.

*Non-Identists.*

Predilection for the eruption is on the flexor surfaces.

On the extensor surfaces with symmetrical grouping on the first and second phalanges.

*Identists.*

(Above condition is found in both diseases.)

*Non-Identists.*

The course is that of steady progress and is chronic.

Remissions and intermissions are characteristic.

*Identists.*

This difference is denied.

*Non-Identists.*

Prognosis is poor.

Good.

*Identists.*

Not all cases end fatally.

*Non-Identists.*

General health is poor.

Good.

*Non-Identists.*

Arsenic influences the eruption favorably.

Does not influence.

The above described action of arsenic may be reversed.

*Non-Identists.*

Deep brown pigmentation.

Very slight or none at all.

*Identists.*

Pigmentation is not constant or it may be due to arsenic treatment.

*Identists.*

Changes in the nails are the same.

Both eruptions are frequent on the genitals.

The weight of evidence seems to be on the side of the identists and all modern writers regard lichen acuminatus and pityriasis rubra pilaris as different names for the same disease.

*Relation of lichen acuminatus and lichen planus to each other.*

There are very many points of resemblance between the two conditions.

1. It is now an undisputed fact that both diseases may be present in the same patient. Lichen acuminatus papules are frequently found on lichen planus patients (Jadassohn, Riecke).

2. Both diseases may start with a general flat inflammation as hyperemia, erythema, eczema.

3. Transitions from one disease to the other may occur.

4. Each succeeding attack may change from one to the other disease.

5. Arsenic is helpful in both.

6. Variations of one disease may also be found in the other, as follows:

Lichen Ruber Acuminatus Verrucosus et Reticularis: This condition consists of ridges composed of rows of single papules. The ridges are elevated from the surface and resemble a keloid or hypertrophic scar. They run parallel to the long axis of the body or cross each other to form a network. The color is sepia brown.

Moniliform Lichen Acuminatus (Kaposi): This is a condition produced when deepened natural lines divide up the ridges above described and with the sepia brown color may resemble strings of coral.

These two conditions may be found in both diseases, only in lichen acuminatus the surface is rough and file-like, while in lichen planus the surface is smooth and waxy. Both forms of moniliform lichen may coexist.

Lichen planus comedo has a waxy, shiny papule with a black comedo-like body resembling the black props found in lichen acuminatus, only the latter papule is red and pointy. Both forms are rough and file-like. They may be found isolated without any other secondary lesions.

Lichen Ruber Verrucosus et Follicularis "en corymbe" (Jadassohn): The arrangement resembles a similar condition frequently seen in syphilis, corymbiform syphilid, small papules grouping themselves around a larger papule or patch. The papules themselves are either comedo-like bodies with blackheads set in flat follicular papules, or red acuminate papules with blackheads (Lavargue, Hallopeau). This condition is found with equal frequency in both diseases.



## DIFFERENTIAL DIAGNOSIS

DIFFERENTIATION BETWEEN LICHEN ACUMINATUS AND LICHEN PILARIS [KERATOSIS PILARIS ALBA ET RUBRA (BROcq). XERODERMA PILAIRE ERYTHEMATAUX (BESNIER). KERATOSIS PILARIS\*]

## LICHEN ACUMINATUS

## LICHEN PILARIS

Onset: Acute.

Very insidious.

Location: Common on the flexor surfaces of joints. Typical location, back of the first and second phalanges.

Extensor surfaces of extremities and buttocks, less on the flexor surfaces but never about the joints.

Grouping: Occurs in groups, lines, circles, figures and patches.

Disseminated. No grouping, no patches.

Scalp: Involved.

Never involved. The disease occurs only about the lanugo hair.

Remissions and Exacerbations: These are the rule.

Never occur. Course is steady and chronic.

Hair: It may involve any hair follicle.

Always a lanugo hair which becomes coiled up and covered by a scale.

Color: Color of the papule is red or brown.

Nearly normal or dirty gray.

When keratosis pilaris is strongly developed it resembles lichen acuminatus. When the palms and soles are involved the diagnosis is still more difficult.

*Microscopic Diagnosis.*—The two conditions are very similar. Unna gives the following characteristic differences:

1. The keratosis in keratosis pilaris is distinctly limited to the follicle and does not involve the neighboring corneal layer as is the case in lichen acuminatus.

2. The mouth of the follicle is cylindrically dilated. The follicle itself is deformed and pushed to one side together with the hair, which is spirally twisted. The appendages are intact. In lichen acuminatus the enlargement of the follicular opening is crater-like, is filled with a plug which may or may not be pierced by a normal or broken off hair.

3. Marked infiltration of the cutis with intercellular edema is always present in lichen acuminatus and is normally absent in keratosis pilaris, although mild cell infiltration may sometimes be found.

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\* In discussing the differential diagnosis the synonyms of each disease will, as far as possible, be enumerated, as the nomenclature of many of the conditions in question is not at all clear.

*Macroscopic Diagnosis.*—*Keratosis pilaris rubra* (Brocq) can be distinguished by its occurrence in young neurotic women and children, and in families with ichthyosis, by its localization on the arms and buttocks; by the bluish marbled appearance of the skin, the bluish-red, very minute papules, by the color being due to hyperemia and hence being influenced by pressure, temperature and circulation; and by areas of atrophy found in the older lesions.

*Ichthyosis follicularis* (Lesser): The occurrence in early life; the absence of all inflammatory signs, and the scale being attached in the center with free and rolled-up edges, should make the diagnosis certain.

*Keratosis follicularis contagiosa* (Brook): *Acne sebacea cornea* (Cazenave). *Acne cornée* (Leloir and Vidal). *Ichthyosis sebacea cornea* (Wilson). This disease begins as a black point, comedo-like, and develops into a deeply pigmented papule. In lichen acuminatus the papule is the first to appear, its black point is a broken-off hair or a pigmented plug and appears later. The skin between the papules is normal in lichen acuminatus, while in this disease each papule is surrounded by an inflammatory areola. The plugs are black and very firmly adherent. They project a wedge into the papule, and when they are pulled out, will rattle like metallic fragments on a piece of paper. In lichen acuminatus the plug is gray and comes out very easily. There is very much pigmentation. The lesions look dirty. Microscopically, *keratosis follicularis contagiosa* is a hyperkeratosis and parakeratosis of the hair follicle and sebaceous follicle and the sweat duct, presenting cell changes similar to those of Darier's disease and may be identical with it. Finally, the course is different in both diseases.

*Psorospermiosis follicularis vegetans*: *Keratosis follicularis vegetans*. Darier's disease. The color of the primary papule is yellowish-gray and not much different from the normal skin; no inflammatory signs. The lesion resembles *keratosis pilaris*. The later papule is greasy-looking and brown in color with a greasy or dry plug which breaks off easily, and when removed leaves a bleeding crater (Kaposi). Localization, generalized. The lesions are rough and they crack and become purulent. The plugs are large, yellowish horny masses.

*Lichen spinulosus* (Dévèrgie): *Lichen pilaris seu spinulosus* (Crocker). The lesions in this disease are both macroscopically and microscopically almost identical with lichen acuminatus. The differences are: that the lesions come on in rapid succession of crops almost over night; its common location is on the back of the neck and buttocks and never occurs on the face or hands; and it occurs in early life.

*Lichen scrophulosorum*: The important differences are: very slow onset. It occurs in children with tuberculous tendency. The lesions

are a mixture of both acuminate and flat angular papules. Patches form by coalescence. Secondary lesions: vesicles, pustules, eczema are usually present. It never occurs on the genitals. Under the microscope the structure of a tubercle is readily made out.

*Lichen nitidus*: This rare disease can hardly be confused with lichen acuminatus. It rather resembles lichen scrofulosorum. The lesions are similar in shape and color to the flat variety of papules in the latter disease; there is a complete absence of itching and constitutional symptoms; it is chronic and stationary. Under the microscope the structure is that of a tubercle.

*Lichen lividus* (Wilan) is found on the legs of old people and during the course of lichen scrofulosorum. The lesion consists of a hemorrhagic papule.

*Lichen syphiliticus* at a glance, presents a picture very similar to lichen acuminatus. There is the same papule, only a little paler or yellowish, with its horny plug which does not pull out as readily as in lichen acuminatus. The papules, however, are very numerous and closely packed, and are symmetrically distributed. Their presence on the face, to the hair line, is very striking. They may be preceded by macules. Finally, the history of the case and the presence of associated lesions, as pustules, etc., ought to make the diagnosis certain.

*Tertiary papular syphilid* resembles lichen acuminatus by its grouping in lines, circles, etc., but its localization, the presence of associated lesions and the history of the case will help the differential diagnosis.

*Psoriasis* can be mistaken only for universal lichen acuminatus, but the adherent scales which leave bleeding points when removed, the absolutely smooth surface under the scales and the absence of discrete acuminate papules at the border, make the distinction easy.

*Psoriasis palmaris et plantaris* occurs late in psoriasis, and only in very severe cases; in lichen acuminatus palmar and plantar lesions may be the first symptoms. There is also less swelling in psoriasis, and the edges are less sharply outlined.

*General exfoliating erythrodermia*: It may be impossible to distinguish this condition from universal lichen acuminatus. A careful search must be made for discrete papules and the history must be taken into consideration.

*Prurigo*: The papule is relatively soft without horny plugs. It occurs mainly on the extensor surfaces of the extremities and is of comparatively short duration.

*Papular eczema* should not be confused with this disease. The papule is soft and there are associated lesions present.

*Tar, chrysarobin and pyrogallol rashes:* A comedo-like body capping a papule bears some resemblance to the disease in question, but the history of the case and the inflammatory symptoms will make a mistake impossible.

#### ETIOLOGY OF LICHEN ACUMINATUS

The cause of this disease is unknown. Intestinal putrefaction may cause a weakened resistance against the real causative factor or may generate the latter. Deterioration of the general health is provocative. In the same way nervous strain, worry and fear may be contributing causes. Exacerbations of the disease occur during periods of body depression (Cunningham).

#### HISTOPATHOLOGY

There is no difference in opinion as to the hyperkeratosis; but writers differ as to whether the infiltration of the cutis is primary or secondary.

*Stratum Corneum:* There is a general hyperkeratosis, the horny layer is increased from two to ten times. It is composed of wavy, homogeneous, lamellar layers. There is but rarely any parakeratosis, only occasionally a nucleated horny cell can be found, and that at the base only. Conical, globular or cylindrical masses project into the hair follicle, forming the plug. The latter is composed of concentrically arranged lamellar layers, like an onion. The lanugo hair may be retained in the mass, or it may have fallen out and an oblong space is found corresponding to it. The plug may become so large as to pull down the surface skin with it; in that manner two follicles may unite to form a twin follicle. There are two other locations where a plug can be formed, namely, in the sweat gland duct and in the rete pegs. A marked hyperkeratosis and plug formation has been observed in the sweat gland duct, which occasionally leads to sweat gland cysts by occlusion of the outlet. Cornification and horny plug formation also may take place in some of the rete pegs.

The rete malpighii is hypertrophied. The cells of the rete may show slight changes, the nuclei are large, vesicular and separated from the protoplasm. The basal layer may be increased in thickness or it may be missing, and between the cells of the rete malpighii and the corneum there is a space filled with round cells, leukocytes and detritus. The whole process is due to edema.

*Papillary Layer:* In the early stage, there is vascular dilatation and perivascular infiltration in the papillae leading downward even to the subcutis. In the second stage the infiltration becomes diffuse. In severe cases the infiltration may extend into the epithelial layer. In



the third stage the diffuse character is lost and the infiltration is localized about the hair follicle, also about the sweat and sebaceous glands to a lesser extent.

*Character of the Cells:* (a) Mononuclear leukocytes. (b) Large spindle-shaped fibroblasts. (c) Few plasma cells. (d) A fairly large number of mast cells.

*Arrectores pilorum are hypertrophied.* Fibrous, elastic and nerve tissues are normal.

#### REPORT OF CASE

*History.*—S. R., aged 40, a moving picture operator, came to the Cornell Dispensary, Jan. 16, 1916.

He stated that in June, 1915, large red blotches appeared in his groins and spread to the back, the abdomen and the chest. Simultaneously with the eruption there came an intense itching. The latter appeared rather suddenly. The itching was most intense in places where parts come in contact with each other and where perspiration is more profuse, as in the groins, axillae and about the scrotum.

He does not remember having had any fever. As to headaches, nothing definite can be stated, as at the time of the onset of the disease the patient was a chronic sufferer from headaches.

The blotches remained stationary for about a month, then they gradually subsided. The itching at that time was still as intense as at the start. Gradually little black "pimples" like blackheads began to appear. Among them were red "pimples" like prickly heat.

The rash first appeared in the groins and about the hips and from there it continually spread upward and only very little downward. About December, 1915, the patient states, the skin began to feel rough and look dirty. The itching was still as intense as before.

*Status Praesens* (Jan. 16, 1916).—There is a discrete papular eruption covering the entire abdomen, the chest to just above the nipple line, the back, both buttocks and a belt of very thickly crowded papules about the waist line. The eruption extends downward on the posterior surfaces of both thighs to about the junction of the middle and lower third. The papules are less numerous on the anterior surfaces of the thighs and become still fewer as the eruption extends downward. Below the middle of the thigh there is not a single papule to be seen. There are several discrete papules on the glans penis and on the prepuce. Posteriorly, the eruption extends upward to the seventh cervical vertebra, over both scapular regions, both deltoids and down on the extensor surfaces of the arms, forearms, wrists, hands and fingers. The papules are especially prominent on the first and second phalanges where they are arranged in parallel rows. On the flexor surfaces of the arm the lesions are fewer and none is seen on the flexor surfaces of the forearms, hands and fingers. On the inner surfaces of both cheeks, about half a dozen papules can be found. They are discrete, gray in color and are indistinguishable from those of lichen planus.

The distribution is strikingly symmetrical. If there is a patch of very closely crowded papules in any region on one side of the body, there is a corresponding one on the opposite side. Similarly, when the papules are only sparingly present or are entirely absent from a place on one side of the body, the same will be true of the corresponding place on the opposite side. Most of the papules are diffusely scattered without arrangement, but a number appear in larger and smaller groups or form straight and curved lines, circles and segments of circles. On the backs of the first and second phalanges the papules are arranged in straight parallel rows.

The size of the papule is variable, averaging about the size of a large pinhead, and most of them are well raised above the surface.

The papules vary from red to purple in color. A small number are velvety-brown. They are tough to the touch and a rough, gray, horny plug projects from the apex of nearly every papule. The plugs are up to 2 mm. in length; they can be pulled out quite readily and on removal leave a red, shiny depression in the center of the lesion. Some plugs are shorter and stubbier and brown to almost black in color. On a number of lesions the plug is so tiny that it can hardly be seen, but it can be felt quite readily with the finger. A smaller number lack the plugs entirely and only a slight fine scaliness can be seen to cap the top of each papule. Finally several papules have no plugs and no scales, the color being that of normal skin. The lesion as a whole resembles goose-skin.

*General Symptoms.*—Outside of the itching there is only a slight pallor. The pulse is 76, normal, full and compressible.

Blood Examination, Jan. 18, 1916: hemoglobin, 84 per cent.; white blood cells and differential count, normal.

*Treatment.*—The patient was given  $\frac{1}{40}$  grain Asiatic pills, was instructed to take one pill three times a day and to increase the dose gradually until ten pills per day were reached. Local Treatment: The only drug used was ammoniated mercury, 5 per cent. in ointment form, applied once daily.

*Biopsy.*—This was made on the above date. Specimens were stained with hematoxylin-eosin; polychrome-orcein; von Pappenheim; safranin-wasserblau; dahlia; picro-lithio-carmin; picro-nigrocin; and hematoxylin-Delafield.

*Pathologic Findings.*—The corneal layer is much thickened and appears in homogeneous, wavy, superimposed lamellae. No parakeratotic cells are to be found. The stratum lucidum cannot be made out. The stratum granulosum is apparently normal. Stratum malpighii is thickened. The rete pegs are not elongated but are thickened. The basal layer is normal.

The hair follicle is widely dilated, more so toward its mouth. A horny mass fills out the cavity and it contains in its center an unaltered hair. The horny mass is arranged in longitudinal concentric lamellae, except for the deepest portion where the arrangement is more or less horizontal and the outline of the horny cells is distinctly retained.

The stratum granulosum of the follicle appears to be coarser and in some places the granules run together in large fat-like droplets.

The rete appears thinner in places and thicker in others.

The basal layer is thickened in places and in others is thinned or missing, being obscured by the round cell infiltration into the epithelial layer. In one place there is a large space between what appears to be the rete and the infiltrate surrounding the follicle, the basal layer being completely absent.

Throughout the whole corium and more so in the upper layer there are to be seen long rows and circles of round cell infiltrations, indicating the presence of a perivascular localization. The latter is more marked about the dilated follicle and also the sweat glands.

The fibrous sheath of the follicle is thickly infiltrated; the infiltration extends quite a distance out into the corium.

Cells composing the infiltrate: mononuclear leukocytes, large spindle-shaped fibroblasts, plasma cells, few in number, and comparatively many mast cells. Mitotic figures were only rarely observed.

*Progress of the Condition and Results of Treatment.*—March 8, 1916: The itching is much improved. Some papules can be seen to be involuting. They are smaller and paler. There are fewer papules on the backs of the fingers than there were on the previous visit.

March 22, 1916: No further improvement is noticed. Treatment is continued.

April 13, 1916: There is some slight improvement in both the itching and the appearance of the papules. The arsenic treatment was continued but the local treatment was changed to 5 per cent. oleum rusci in Lassar's paste.

A second biopsy was made. The section was taken from the back and a spot selected where the papules had the color of the normal skin, to determine the presence of infiltration. The section passed through two papules, one cut transversely and the other longitudinally. The latter was a double follicle filled with a bifurcated plug. Although the papules selected were indistinguishable from the normal skin, the infiltration was as marked as in the specimen from the first biopsy. Neither of these papules contained a hair.

May 24, 1916: There is marked improvement. There is still a number of deep red papules, raised above the surface and capped with long horny plugs. Most of the lesions, however, are smaller; the color is dirty gray, pink or yellowish-brown. The papule is capped with an almost flat, black, horny plug, not unlike a comedo. A large number of papules are normal in color and possesses no plug.

Scattered among the other papules and especially numerous in the groins and axillae, there are deep red papules of the size of a sago seed. They present at the apex a grayish white mass, resembling a pustule. The whole lesion resembles a pustular acne. Embedded in the pustule-like apex of the papule is a horny plug, which comes out with the slightest scratching with the finger nail and leaves behind a deep crater-like, gaping, moist and shiny depression. No pus, however, can be detected. The origin of the above described lesion may be that some involuting papules are influenced by heat and moisture and also by irritation from scratching. When a plug is pulled out of a small colorless papule, the latter turns pink in color, becomes almost flat and has in its center a small punched-out cavity. If the same operation is performed on a number of closely packed papules, the surface looks honeycombed.

A third biopsy was taken. Now lesions were selected that had no visible horny plugs and as a whole looked like goose skin. There were two papules in the field, both cut transversely. From one the plug had fallen out and left a cavity in its place, the other contained a small plug without a lanugo hair. Infiltration was present, though in less marked degree than in the previous sections.

May 27, 1916: Improvement is rapid. Most of the lesions are entirely flat. The keratotic plugs are black and only slightly project from a nearly normal surface. They come out with the slightest scratching over the surface with the finger nails and leave a very minute normally colored dimple behind them. Other papules are in various stages of involution. Arsenic treatment is discontinued; the local treatment is still kept up.

June 23, 1916: The lesions have almost entirely disappeared and only scattered here and there are individual papules and groups of papules in various stages of involution. There are many large, brown pigmented patches over the shoulders, arms and the back; also in the form of a belt around the waist, in other words, in all locations where the lesions were most numerous.

Scattered all over the body, but comparatively few in number, are horny plugs on an almost flat, slightly brownish surface. The plugs are indistinguishable from comedones at first glance; only when scratched out from their site does the difference become evident. They are hard and short horny masses. The lesions in the mouth are about half their former size, but are still present and distinct.

Jan. 22, 1918: The skin is entirely soft and smooth. It is entirely free of any eruption. Patches of pigmentation, however, are still present, especially about the waist line.

March 19, 1918: Pigmentation is still present.

July 7, 1918: Pigmentation has not entirely disappeared.

## SUMMARY

The points of importance presented by this patient are:

1. The onset with a preceding erythema; the absolute benignity of the disease; the typical location on the backs of the first and second phalanges pointing to pityriasis rubra pilaris; the constant presence of infiltration; the presence of a plug without any signs of hair structure; the long intermission — nearly three years; the rapid improvement under arsenic treatment pointing clearly to lichen acuminatus. From the above it seems certain that the two diseases in question are identical.

2. The presence of the eruption in the mouth and the response to arsenic treatment links it closely to lichen planus.

909 Kelly Street.



## PSORIASIS AND DIET

WILLIAM ALLEN PUSEY, M.D.

CHICAGO

We are so much inclined to accept the view that excess of protein in the food is a feature in the etiology of psoriasis, that I was very much interested in the dietary history of a young lady with psoriasis whom I have recently seen.

### DESCRIPTION OF CASE

The patient is an intelligent young woman, a college graduate. Her mother is a woman of the same type. I am sure the statements they make are in every way reliable and within the facts. Her statement of the dietary experience came up quite casually and without reference to supporting any views they might have on her psoriasis.

When she was a child 3 years old she was thrown into great excitement by seeing a chicken killed, and as a result developed a complete antipathy for animal foods. Until four years ago — that is, until she was 19 — she ate absolutely no meat, fowl, fish, milk or eggs, except such milk and eggs as she received in breads. For the last four years she has eaten a very small amount of meat, nothing but pork chops and beef; she eats sparingly of these and never but once a day, her reason being she does not care for meats. She has no vegetarian hobby; simply does not like meats. She has never eaten eggs, milk, fish or shell-fish. She has tasted eggs and milk, but as far as she knows, she has never tasted fish. In short, I have never seen any one whose statement I thought was reliable who was so complete a vegetarian. She is very fond of gravies and her diet in other respects is well rounded. Of course, she gets the necessary physiologic amount of protein for she is a well nourished, healthy young woman, but there is every reason to believe that her intake of animal protein is a physiologic minimum, and she is not a heavy eater of the leguminous vegetables.

### PRACTICAL CONSIDERATIONS

Of course, I realize that one case of this sort offers only negative evidence; but it is certainly one very extensive clinical experiment, and, as far as one experiment carries any weight, it indicates that, at

least in some cases, a restricted protein diet extending over many years may be accompanied by psoriasis, and suggests that, at least in some cases, a physiologic excess of nitrogen is not required to produce psoriasis.

## LICHEN PLANUS IN TWO BROTHERS

DOUGLASS W. MONTGOMERY, M.D.

AND

GEORGE D. CULVER, M.D.

SAN FRANCISCO

The etiologic riddle of lichen planus has never been solved. The nervousness of many of those affected by it has caused it to be considered a neurosis; on the other hand, it bears marked resemblances to the great microbic diseases such as syphilis and leprosy, which naturally have led many to think it infective. Its isolated character, however, is a strong argument against its being transmitted from person to person. The infective nature of syphilis, for instance, is so marked that even a very limited acquaintance with the disease leaves no doubt of its nature. In leprosy the fact of transmission is much more occult, but the axiom that where one leper is found another will ultimately appear, as the source of the first, is true. On the contrary, in lichen planus there is no tracing the disease from person to person, nor does it occur in families, for those instances in which it happens to afflict two close relatives are so rare as to suggest that it is a chance occurrence, rather than that it is due to natural law. In the following instance two brothers were affected, in one of whom the disease pursued a most interesting course.

### REPORT OF CASES

*CASE 1.—History.*—A rancher, aged 40, consulted us, Feb. 26, 1913, for what he considered poison oak of the wrists and hands, which he said he contracted four months previously. The eruption was widespread and itchy, and we regarded it as eczema. Besides the trouble on the skin he had what is called a "beefsteak tongue," and the gums were tender so that food, especially vegetables, hurt them.

After being under observation about a month, albumin together with granular and hyaline casts appeared in the urine. Hitherto nothing had been found but indican, and occasionally a little bile. Frequently the urine was alkaline. Never but this sole time—March 21, 1913—were we able to demonstrate albumin or casts.

*Clinical Course.*—The eruption steadily grew better, with occasional exacerbations during the warm, summer weather. In September, he came to the office with an almost universally distributed lichen planus eruption, but none in the mouth or on other mucous surfaces. A patch over the left shin was remarkable; it was oblong, well circumscribed, thickened, verrucous and rough, and almost inky black. It resembled an old, weather-beaten piece of thick leather, and had begun to rise up prominently about six weeks previously. The further evolution of this patch was interesting, as shortly it became a dirty gray color, and, under a lens, looked finely pitted, like a piece of metal with innumerable blow holes. Under treatment for lichen planus the patient made an excellent recovery.

**CASE 2.—History.**—On Nov. 20, 1915, about two years after his recovery, this patient brought in his brother, a druggist, aged 30. Except for habitual constipation and attendant auto-intoxication, he enjoyed good health. He had had typhoid fever two years before. The immediate cause of his visit was lichen planus of the anterior surfaces of the wrists and of the calves, which had begun not long before.

**Clinical Course.**—We saw the patient only this once, but we learned that the skin returned to the normal without incident. The only interesting feature in this case was the family connection.

#### COMMENT

Attention may be drawn to the fact that the affection in the younger brother did not occur until it had long disappeared in the elder, and that the two men were in altogether different occupations—one a rancher and the other a druggist—and that they lived widely separated. They both, however, had marked disorder of the gastro-intestinal tract.

The cases cited are the only instances of familial lichen planus among the 149 cases of this disease seen in this office since the spring of 1906.

#### LITERATURE

In an article published in 1906 by Bettmann of Heidelberg, he stated that he found eighteen cases in the literature, and himself reported two instances of this contingency.

In one instance two brothers were affected, of whom he personally saw one. In the other instance a brother and sister had acute lichen planus. The patients lived so far apart that there was no question of contagion, and the brother became affected after the sister had been completely cured for nine months.<sup>1</sup> Schütz saw lichen planus, as a family disease, three times.

In one case, a young man had lichen spinulosus over both knees. His mother had been treated by another dermatologist for lichen planus, and his uncle had psoriasis.

The second instance was a woman, who had typical lichen planus, and whose sister had isolated lichen planus of the palms.

The third instance was a young woman with lichen ruber planus of the neck, scalp and pubes, and lichen ruber acuminatus of the back of the neck and of the back. Her uncle suffered from extensively distributed lichen planus.<sup>2</sup>

F. Veiel has reported a Jewish family of four members, three of whom, a father, a son and a daughter had lichen planus.<sup>3</sup>

1. Bettmann, S.: Beiträge zur Kenntniss des Lichen ruber planus, Arch. f. Dermat. u. Syph. **85**:379.

2. Josef: Beiträge zur Kenntniss des Lichen ruber planus, Arch. f. Dermat. u. Syph., p. 241, (Aug.) 1908.

3. Veiel, F.: Lichen planus als Familienerkrankung, Arch. f. Dermat. u. Syph. **93**:883.



H. Samuel saw annular lichen planus in two sisters.<sup>4</sup>

Veiel, in the above mentioned report, suggested that the occurrence of the disease in the three members of the same family might be due to a family disposition. He did not regard it as either caused by nervousness, or as of parasitic origin.

Our experience and the few cases recorded in history do not, however, show a family disposition for this disease.

#### PRINCIPAL ETIOLOGIC FACTOR

The marked digestive disturbances, the extreme irritability of the skin, the lesions appearing along scratch marks, the occurrence of the eruption and of the general irritability by storms with intervals of comparative quiet, give the impression that the disease is due to a toxic substance, acting on the nerves. The most probable seat for the generation of such a toxic substance would be the alimentary canal.

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4. Proceedings Royal Society Med., Dermat. Section 8: 1915.

## DERMATOLOGY IN THE ARMY\*

REPORT OF THE DERMATOLOGICAL DEPARTMENT, CAMP TRAVIS, TEXAS,  
FOR THE YEAR 1918

W. H. GUY, M.D.  
Captain, M. C., U. S. Army

PITTSBURGH

An unusual opportunity is afforded for the study and treatment of dermatoses in the Army because probably for the first time in his experience the dermatologist is able to control his patients. Troops are inspected at regular intervals and men found with skin lesions are referred for diagnosis and treatment. An outpatient department and a ward in the base hospital are set aside for the care of dermatologic cases, only certain types of cases being admitted to the hospital. The acute exanthemas are isolated and held during the usual quarantine periods. All aggravated skin diseases and all parasitic infections are admitted to the hospital. In the early days of this work we treated such diseases as scabies and the various vegetable parasitic infections in the outpatient department, but found so high a percentage of recurrences and so many instances of spread of diseases that it was decided to hold all such cases in the hospital until not only the patient was cured, but his clothing and bedding was sterilized. Since that time we have had but little trouble in controlling these infections.

### TYPES OF DERMATOSES OBSERVED

Many interesting cases are seen in consultation in the various other departments of the hospital. During an epidemic of measles in which about 4,000 patients were admitted to the hospital, a great variety of interesting dermatoses were seen. Of the comparatively unusual, a considerable number of cases have been seen as the following tabulated report of cases admitted to the hospital during the past year will show. Acne, miliaria, ichthyosis, vitiligo, keloid, pityriasis versicolor, pompholyx and such affections were in most instances in the hospital on account of other conditions, dermatologic treatment being applied when indicated and practicable. About as many cases were handled on the ambulatory plan as were admitted to the hospital. Inasmuch as this work has been carried on in conjunction with the care of syphilis — of which something over 2,000 cases have been examined — an excellent opportunity has been afforded for differential diagnosis and in the application of special therapy.

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\* Authority to publish granted by the Board of Publications, Surgeon-General's Office.

REPORT OF CASES OF SKIN DISEASES, BASE HOSPITAL,  
CAMP TRAVIS, 1918

Acne .....	60	Lichen chronicus circumscriptus..	5
Acne varioliformis .....	1	Lichen planus .....	1
Blastomycosis .....	1	Lipoma .....	7
Bromidrosis .....	10	Lupus erythematosus .....	2
Burns .....	19	Lupus vulgaris .....	1
Carbuncle .....	16	Lymphangioma circumscriptum...	1
Cheilitis exfoliativa .....	1	Miliaria (severe) .....	150
Clavus .....	12	Molluscum contagiosum .....	2
Cornu cutaneum .....	1	Paronychia .....	5
Dermatitis exfoliativa .....	1	Pediculosis capitis .....	80
Dermatitis factitia .....	2	Pediculosis corporis .....	103
Dermatitis herpetiformis .....	3	Pediculosis pubis .....	50
Dermatitis, acute infectious ecze- matoid .....	2	Pellagra .....	4
Dermatitis medicamentosa .....	5	Pityriasis rosea .....	39
Dermatitis, occupational .....	20	Pityriasis versicolor .....	65
Dermatitis papillaris capillitii....	3	Pompholyx .....	5
Dermatitis venenata .....	36	Pruritus cutaneus .....	4
Dermatitis seborrheica.....	1	Pruritus ani .....	4
Ecthyma .....	5	Psoriasis .....	20
Epidermolysis bullosa hereditaria.	2	Purpura, symptomatic .....	7
Epithelioma .....	5	Scabies .....	947
Erythema multiforme .....	68	Scleroderma .....	1
Erysipelas .....	75	Sycosis, staphylococcus .....	36
Erythema nodosum .....	2	Tinea circinata .....	210
Erythema pernio .....	1	Tinea unguis .....	4
Erythema toxicum .....	5	Tinea cruris .....	120
Favus .....	1	Tinea tonsurans .....	3
Furunculosis .....	65	Tuberculi, papulo-necrotic .....	1
Glossitis areata exfoliativa.....	8	Ulcer, traumatic .....	72
Granuloma pyogenicum .....	1	Ulcer, varicose .....	15
Herpes zoster .....	23	Urticaria .....	70
Herpes simplex (severe).....	38	Varicella .....	26
Hydroa vacciniforme .....	1	Variola .....	27
Hyperidrosis palmaris .....	4	Verruca .....	3
Ichthyosis simplex .....	4	Vitiligo .....	1
Impetigo (Bockhart) .....	10	Fibroma molluscum .....	2
Impetigo contagiosa .....	35	Xanthoma tuberosum multiplex...	1
Keloid .....	3	Xeroderma pigmentosum .....	3
Keratosis palmaris and plantaris..	3		

TREATMENT WITH THE ROENTGEN RAYS

Roentgenotherapy has been under my direction in this hospital, not only in dermatologic conditions, but in all cases where roentgen-ray treatment is indicated. Severe acne has been treated with fractional weekly applications of the ray plus general and local treatment. My one case of blastomycosis responded to roentgen rays, combined with the iodid of potassium, internally. A cutaneous horn about an inch long was removed from the cheek and the base, which showed evidence of epitheliomatous degeneration, was given three monthly skin toleration doses of roentgen rays, with good results. By macera-

tion and paring, clavus was reduced to approximately normal thickness and roentgen rays applied to prevent recurrence.

Four cases of epithelioma were curetted and roentgen rays applied in massive dosage with good results. An epithelioma situated at the muco-cutaneous junction on the lower lip was excised and the wound subjected to postoperative radiation. All malignant conditions in the surgical department were given postoperative and in some cases pre-operative radiation. Lesions of generalized psoriasis were cleared, using the method of multiple fractional applications, allowing overlapping of rays to obtain equal dosage over the entire area treated. One case of favus of twenty years' standing was treated with roentgen rays, using a modified Adamson-Kienbock technic to obtain an epilation. No accurate radiometer being available, I have had to rely on estimation of dosage by spark gap, milliamperage, distance and time, so that in the above case fractional applications were made by the usual technic until an epilation was produced. The result was all that could be desired, hair returning in all areas not affected by the disease after about ten weeks. Palmar hyperidrosis was controlled by weekly fractional applications of roentgen rays. Palmar and plantar keratoses were removed and rays applied with good results. Roentgen rays were used as an adjuvant in one case of lupus vulgaris. Pruritus ani was relieved by weekly fractional treatments. Lichen chronicus circumscriptus responded promptly to weekly treatments. Tinea tonsurans was cured by the application of roentgen rays sufficient to cause a temporary epilation. Sycosis staphylogenes responded to the usual measures.

#### RESULTS OF TREATMENT

A 10 mg. radium plaque (dermatologic applicator) has been used to advantage in many cases. A keloid located on the finger and limiting motion was cured by repeated applications. One case of dermatitis papillaris capillitii has been cured. In such cases response is slow, but roentgenotherapy offers the one best chance for permanent cure. Lupus erythematosus of the long-standing discoid type is much improved, but will require additional applications. Verruca vulgaris in all cases responded to radium. Cheilitis exfoliativa was much improved after repeated applications, the soldier being released before the treatment was completed. Small resistant patches of chronic thickened dermatitis were cured promptly—the same results were obtained with long-standing small, thickened patches of psoriasis. In such cases, roentgen rays and radium give equally good results, the choice depending largely on the size of the lesion. Filtered radium was used in one case of basal cell epithelioma with good results. By



placing the plaque in a sterile rubber glove, applications have been made to wounds after operation for certain malignant growths. One case of glossitis areata exfoliativa out of four treated recovered under short applications, unfiltered except through rubber. Pre-epitheliomatous keratoses responded promptly to radium applied after removal of the thickened horny material.

#### FURTHER OBSERVATIONS

Only four cases of pellagra with well marked symptoms have been seen, although there have been many borderline cases. The average stay of these four cases in the hospital was thirty-one days, their treatment being largely dietary. Two patients were returned to their commands in good condition, and the other two were so much improved that they were able to do full duty. Two patients with epidermolysis bullosa hereditaria were tried out in various capacities and finally discharged on account of inability to perform ordinary military duties without being in the hospital or in quarters for a great part of the time because of an extensive bullous eruption at the sites of minor irritation.

Several intractable cases of generalized psoriasis that recurred promptly after being cleared by roentgen rays were discharged on account of the attitude of their comrades, who would not associate with them. Advanced cases of xeroderma pigmentosum with epitheliomatous involvement were discharged in three instances. Dermatitis herpetiformis was seen three times. All cases improved under rest in bed and a light diet, but two of them were discharged on account of severe exacerbations when returned to duty. The one other case which was of eight years' standing was improved to the extent that the patient was able to perform light duty, and had only an occasional limited crop of vesicles. At the time of his stay in the hospital a frontal sinusitis was treated and several teeth with apical abscesses removed.

#### AN INTERESTING SERIES OF CASES

Of particular interest is the series of multiform erythema reported by permission of the Surgeon General in the *Journal of the American Medical Association*, Dec. 14, 1918. In all, forty-seven cases were studied from a clinical and laboratory standpoint. Investigation of the blood, urine and local lesions gave us no profitable information. In most cases the tonsils were moderately inflamed. Superficial throat cultures revealed the presence of the usual organisms. Cultures from deep tonsil crypts were positive for a hemolytic streptococcus in thirty

cases. A nonhemolytic streptococcus was found in nine patients. In two patients the streptococcus was found in recent vaccination wounds. A high frequency of recurrence was noted except in cases subjected to tonsillectomy. This group of cases was seen during an epidemic of respiratory infections in which a hemolytic streptococcus was the predominating organism found. The theory is advanced that these cases were due to the elaboration of toxins from a focus of infection in the tonsils by the streptococcus hemolyticus.

# Society Transactions

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## NEW YORK DERMATOLOGICAL SOCIETY

*Regular Meeting, Oct. 22, 1918*

CHARLES M. WILLIAMS, M.D., *President*

LEPRA MACULO-ANESTHETICA. Presented by DR. WISE for DR. FORDYCE.

The patient was a married woman, aged 47, born in Russia, living in this city since the past fourteen years. She presented a lesion occupying the anterior aspect of the right leg and lower half of the thigh. This patch consisted of an area of depigmented, yellowish, smooth, slightly wrinkled skin, with well defined crenated borders. There was no infiltration or scaling. The area was quite anesthetic. The patient seemed to be otherwise normal, there being no other stigmata of leprosy discoverable. Subjectively there were no symptoms.

### DISCUSSION

DR. FORDYCE said it was surprising to know the number of cases of this trouble which developed here after apparently long incubation periods. It was probable that the early stages of the trouble were unrecognized. This patient had been in this country fourteen years and said the skin condition had existed only three months. In the macular anesthetic type, the textbooks usually stated that the bacilli were only found in the nerves and not in the skin. They may, however, be demonstrated in the skin lesions if the tissues were fixed in absolute alcohol and a careful search were made.

NEVUS VERRUCOSUS LINEARIS. Presented by DR. WISE for DR. FORDYCE.

An unmarried girl, aged 20, presented a large number of prominent verrucous lesions, chiefly on the right side of the body, involving the skin of the face, neck, trunk and extremities. The left side of the neck, posteriorly, also was affected in a similar manner. The lesions were dark brown, well defined, rough, warty and scaly, arranged in linear and configurate dispositions, occurring also in the form of large scaly and verrucous patches with crenated borders. Vigorous treatment with chrysarobin ointment and carbon dioxide snow had very slight effects on the lesions. The patient stated that the verrucous element would disappear temporarily under the administration of sodium cacodylate by injection.

### DISCUSSION

DR. SHERWELL referred to a young lady whom he had treated for a similar condition. She had the same type of lesions as were demonstrated in Dr. Fordyce's case. They affected the neck, so that she could not wear evening dress, also the armpits, the neighborhood of the pudenda and one side of the abdomen, extending down to the ankles. The patches were linear. She was engaged to be married and consulted the speaker to find out if anything could be done. He said he curetted and snipped off the lesions, and then applied salicylic acid ointment and touched up some of the lesions with trichloroacetic acid. The eruption entirely disappeared.

DR. FORDYCE said it seemed to him that the textbooks often confused students and teachers by making separate diseases of so many allied conditions,

as for instance, *nexus unius lateris*, *nexus verrucosus* and *ichthyosis*. The speaker said he thought these diseases should be put together as members of the *ichthyosis* group, and students should be instructed in the unity of these cases—they all belonged to one group.

DR. MACKEE said that he was pleased to hear that Dr. Fordyce was willing to place this case in the same group with *ichthyosis*. It must be admitted that a widespread linear verrucous *nexus* of this type was so much like *ichthyosis* as were many cases of *ichthyosis hystrix*. The lesions in Dr. Fordyce's patient improved in summer and became worse in winter.

**SCLERODERMA CAPITIS.** Presented by DR. WISE for DR. FORDYCE.

The patient, J. T., was a boy, aged 7, born in this country, of Italian parentage. He presented a lesion of about a year's duration, situated on the left side of the face, forehead and left frontal portion of the scalp, extending to the occiput. This patch of skin was sharply defined at its borders, one of which was directly over the median line of the nose and forehead, the outer edge being somewhat irregular and ill defined, running from the malar region of the cheek to the occipital portion of the scalp, the whole patch forming, roughly, a triangular area. The skin was depigmented, yellowish, smooth, atrophic and indurated. Thyroid extract in  $\frac{1}{2}$  grain doses, three times daily, was being administered.

DISCUSSION

DR. FORDYCE said these cases were mysterious. We did not know much of the etiology.

DR. SCHWARTZ said he saw a case of the late Dr. J. C. Johnston's which cleared up very markedly under treatment with pituitary extract. After a time, however, improvement ceased but began again when thyroid extract was administered in addition, and ultimately the case cleared up almost completely.

DR. FORDYCE said if we knew more about the administration of pituitary and thyroid we might get better results.

DR. MACKEE thought that reported cures by means of various agents in cases of *scleroderma* should be accepted with some reserve. An occasional case would yield to thyroid extract, an occasional one to pituitrin, and massage had apparently cured one very bad case. In addition, the literature contained reports of cures by means of roentgen ray, radium, ultraviolet light and electricity. In spite of all these good reports most of the members could aver that they had tried some or all of these therapeutic agents without result. The speaker's contention was that *scleroderma* and especially *morphea* occasionally would undergo spontaneous improvement, and whatever remedy was being used at the time would receive credit for the improvement. The speaker did not wish to discourage the use of these remedies, but advised caution in the interpretation of the results obtained by their use.

**PAPULO-NECROTIC TUBERCULID.** Presented by DR. WISE for DR. FORDYCE.

The patient was a girl, aged 21, unmarried, born in this country. She presented a large number of lentil to split pea-sized, indurated, reddish and violaceous papules, some of them with characteristic necrotic centers, on the posterior aspects of the forearms and the backs of the hands. The interesting feature of the eruption was the presence of many typical necrotising papules in the palms of the hands. The duration of the eruption was four years. There were also numerous white, depressed scars on the forearms, the remains of previous lesions. *Pernio* of the fingers was manifested in mild degree.



## DISCUSSION

DR. FORDYCE said it was rather unusual to have this condition on the palms.

**SYPHILIS; GUMMA OF THE NOSE.** Presented by DR. WISE for DR. FORDYCE.

An unmarried man, aged 30, was infected with syphilis four years ago and had neglected treatment. He presented perforating lesions of the nasal septum and of the soft palate, extensive scarring and contractures of the pharyngeal walls, and a perforating gumma of the left side of the nose, resulting in a hole, about one-eighth inch in diameter, through the wing of the nose.

## DISCUSSION

DR. FORDYCE remarked on the unusual location of the condition. He said he did not think he had seen a perforation of the wing of the nose as displayed in this case. The case would respond very quickly to arsphenamin.

DR. SHERWELL said he remembered that at Blackwell's Island clinic in the late sixties, there was no end of these cases with perforation of the septum, and extensive bone lesions were very common. The treatment of such conditions had greatly improved since that time. In private practice such lesions were of the rarest occurrence.

DR. FORDYCE said it was not unusual to see the severe cases at the City Hospital which Dr. Sherwell referred to. In the outdoor clinics they were not so frequently encountered. Before the arsphenamin era, he recalled a patient in the secondary period who developed a most malignant type of syphilis which rapidly destroyed the nose and upper lip. This case did not respond to mercury given by inunctions and intramuscularly. He rapidly responded to the administration of iodid of potassium.

**RADIUM DERMATITIS.** Presented by DR. MACKEE for DR. FORDYCE.

The patient was a man, aged 30, who had received radium treatment for tuberculous cervical glands, almost a year ago, in one of the local hospitals. One application had been made consisting of several small metal tubes containing radium emanation. The result was a palm-sized second degree burn over the angle of the mandible and a first degree reaction over the face, neck and a large part of the scalp. When presented to the Society there was permanent alopecia of the left side of the face and scalp with depigmentation, atrophy, telangiectasia and tiny keratoses in the region of the mandible. In the literature and at Society meetings one encountered reports to the effect that radium would not and could not produce the same sequelae as affected by the roentgen ray. The patient was presented to disprove these erroneous and injurious theories.

**CASE FOR DIAGNOSIS (SYPHILIS).** Presented by DR. WISE for DR. FORDYCE.

The patient, a colored man, aged 27, married, gave a history of having had a penile sore about five years ago. This was cauterized at the time, and no internal remedies were administered. Five weeks prior to presentation several sores appeared on the glans penis, simulating chancroid in appearance. There was a moderate amount of inguinal adenopathy. Three dark-field examinations on three successive days proved to be negative. The Wassermann report had not yet been received, the patient having appeared at the clinic only three days ago. There was no cutaneous eruption, nor were there any other concomitant lesions. The case was presented for a discussion dealing with differential diagnosis as to chancroid, chancre and superinfection. It was impossible to ascertain from the vague history of the negro, whether he ever had the symptoms of syphilis.

## DISCUSSION

DR. SCHWARTZ said he regarded this as being a syphilitic manifestation of the tertiary type, possibly a case of the so-called chancre redux. Further observation was required before an absolute diagnosis could be made.

CAPTAIN KLAUDER (by invitation) said he thought it was the "beef-steak" type of chancre which Taylor described some years ago. This chancre was typical inasmuch as it was not indurated. It was not common. In a recent analysis by the speaker of 121 cases of genital chancres it was seen once. He thought the *Spirocheta pallida* would be found if search was persisted in. If the original lesion which the patient had some years ago was a chancre, the present sore to be syphilitic would either be a reinfection, a second infection after the cure of the original infection, or a superinfection, that is, a lesion resulting from the re-exposure to syphilis while still being a syphilitic. He thought there was evidence to believe in the possibility of superinfection. The speaker did not regard the condition as being a gumma, tuberculosis or an instance of chancre redux.

DR. LANE said that he could not see how a definite diagnosis of these two lesions was possible at present, after the failure to find spirochetes in them. The possibilities seemed to be chancre; or chancre redux, though the presence of two lesions made that rather unlikely; or tertiary chancriform syphiloma, the tertiary pseudo-chancre of Fournier; or a nonsyphilitic infection.

DR. FORDYCE said it was difficult to express an opinion about this condition. It was not unusual to see multiple tertiary lesions. We did not know whether he had an infection several years ago or not. It might be multiple primary sores. The speaker said he did not see how a diagnosis could be decided on without observing the case closely.

#### REPORT OF A CASE OF MYCOSIS FUNGOIDES WITH DEMONSTRATION OF PHOTOGRAPHS. By DR. MACKEE.

DR. MACKEE showed photographs of a case of mycosis fungoides with lesions on the tongue. He said it was the first time he had seen mycosis fungoides affect the tongue although such cases had been reported in the literature. He showed a picture of the patient's body in the tumor stage, and another photograph of the same patient after roentgen-ray treatment, showing a complete disappearance of the lesions. The tongue lesions were subsiding very rapidly as a result of roentgen ray applied to this region.

DR. LANE said he wished to call attention to the excellent results of Dr. MacKee's treatment of this case. The patient previous to that was in a deplorable condition, having had roentgen-ray treatments elsewhere, with no improvement.

#### CASE OF DEEP RADIUM DERMATITIS, RESULTING IN DEATH. Reported by DR. MACKEE.

DR. MACKEE said the patient in question received several intensive radium treatments with the idea of affecting the deeper tissues and sparing the skin. The dosage was intensive and filtered through thick lead. The patient developed, several weeks later, severe pain in the abdomen and this continued and grew worse until morphin was necessary. Finally, the side of the abdomen became swollen and hyperemic, ulceration took place and the patient died. The speaker said he was of the opinion that the patient had suffered from a radium inflammation of the deep tissues. Later these tissues underwent necrosis and eventually the skin also broke down. The patient died from exhaustion.

## ZOSTER OF THE PALMS. Reported by DR. SHERWELL.

DR. SHERWELL asked if any of the members had ever seen a case of zoster of the palms. He had seen a case with lesions on the palms, with bullae. At first he could not make a diagnosis owing to swelling and reddening of the backs of the hands, but thought it was erythema multiforme. In addition to these lesions, she had pain in the shoulder and neck pointing to nervous origin, and lesions on the arm. The pruritus and pain were intolerable. The lesions finally cleared up in the ordinary time limit, the entire process lasting nine days.

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## CHICAGO DERMATOLOGICAL SOCIETY

*Special Meeting, June 13, 1918, Section on Dermatology, American Medical Association.*

DAVID LIEBERTHAL, M.D., *President*

## CASE FOR DIAGNOSIS. PRESENTED BY DRs. ORMSBY AND MITCHELL.

The patient, a man, aged 43, was blinded in an explosion ten years previously when foreign bodies, including powder, were embedded in the skin of the face and forehead. He afterward traveled in tropical countries where he came in contact with leprous subjects. The lesions for which he was seeking relief were hemispherical, waxy nodules, very hard in consistency, pea-sized and painless, situated on the brows, beneath the eyes, over the nose and about the mouth. They were said to be of one month's duration, and were rapidly increasing in number and size.

## DISCUSSION

DR. SUTTON thought the cutaneous lesions were suggestive of an atypical nodular leprosy. The fact that the man had spent many years in the tropics would tend to bear out this diagnosis. He asked if a careful search had been made for bacilli.

DR. FORDYCE thought the lesions were harder than those of leprosy and the giant cells were such as were seen in tuberculosis.

DR. CHIPMAN agreed with Dr. Fordyce. His impression was that it was probably a tuberculous process and possibly the predisposing cause was traumatism. He recalled a similar appearing case which he thought was definitely tuberculous which followed an injury received several years before. The gross appearance was tuberculous, and yet sections proved it to be epithelioma. He thought it hard to make a definite diagnosis without more data, but believed the process tuberculous.

DR. FOERSTER suggested the possibility of foreign body tuberculosis.

DR. ORMSBY stated that the patient had been under observation only a few days. He had spent a number of years in South America, where he was exposed to leprosy. Careful examination for acid-fast bacilli had resulted negatively. The speaker stated that as a rule the lepra bacillus was readily demonstrable in the nodules, but none was found in these nodules. The rapidity of the process here was unusual; the patient stated that the lesions had been present for only six weeks, and said they felt like little stones. It is possible that the new growths were produced by foreign bodies introduced at the time of the accident. The lesions were different from those seen in any variety of tuberculosis which he had seen.



## CYSTADENOMA. PRESENTED BY DR. STILLIANS.

A Norwegian milliner, aged 41, had had since childhood a group of papules on the right side of the neck just above the clavicle. In this area cysts had formed which caused discomfort when distended, at times interfering with sleep. The cysts sometimes broke and discharged a thin fluid. The papules were brownish red, hard, flat topped, many with a central yellow area. The group was elongated upward about 2 by three-fourths inches, and at the center was a thick walled cyst three-eighths inch in diameter, over which dilated vessels coursed. The clinical diagnosis was lymphangioma circumscriptum.

## DISCUSSION

DR. RAVOGLI considered it a case of a cyst of the sweat gland excretory ducts, caused by the accumulation of the sweat which, retained in the skin, formed little tumors. He had recently had a case with a similar lesion just under the lower eyelid. There were two or three little tumors of the size of a pea. They were opened, the fluid removed and the epidermis permitted to heal by itself and they disappeared entirely.

DR. STILLIANS stated that after making a clinical diagnosis of lymphangioma circumscriptum he was considerably surprised to find histologically no evidence of dilated lymph channels, but many small cysts derived from the coil glands, some of them showing proliferation of the lining epithelium and all of them filled with a granular homogeneous substance. Slight degenerative changes were present in some of the hair follicles, and an infiltration of the derma with round cells and a few white blood cells and plasma cells, especially marked about the hair and sweat follicles. Dr. Edwin Kirk, who had kindly examined and described the specimens, believed that the inflammatory changes in the derma were primary, the cysts secondary. The possibility that the lower end of the lesion, at which the biopsy was made, did not represent correctly the histology of the whole tumor, suggested itself, as the history of persistence since early childhood and the clinical appearance of the lesion did not in the least agree with this opinion. It might be that the tumor was a lymphangioma showing at the lower end only the changes in the coil glands sometimes seen in such tumors. An effort to get a piece from another part of the mass for histologic examination would be made. The linear shape, and the fact that the patient complained of a distressing tense sensation in the tumor, were of interest.

DR. HEIMANN stated that clinically it was lymphangioma. He believed it was not possible for hypersecretion to form cysts of this size in the tissues. The cysts formed in the sweat glands were very small, only a little larger than the average millet seed. It was possible that one of the large lymphoid cysts compressed the glands and might appear as though arising from a sweat gland.

DR. PUSEY said the condition looked to him like a circumscribed lymphangioma. He asked on what basis Dr. Heimann said that it was impossible for an accumulation of sweat to cause such a cyst. The skin might be of lowered resistance and dilate under less pressure than normal skin. Just as in an old bladder with a big prostate for years there can be a dilatation up to the navel without difficulty and while in a bladder much less dilatation would meet the greatest resistance. He challenged the view that it could not be a sweat cyst because the sweat could not produce one of that size.

DR. HEIMANN did not doubt that the sweat could dilate the tissue, but he thought there would not be sufficient pressure of the sweat to keep the tissue dilated indefinitely. He thought the sweat would stop forming before that was reached.

DR. ORMSBY said regarding the clinical side that every one had seen cases of lymphangioma circumscriptum in which the superficial lesions were accompanied by a deep-seated growth such as occurred in this case. As such lesions



did not occur in connection with the sweat glands it seemed more probable that the lesions in this case resulted from involvement of the lymph rather than the glands.

DR. STOKES stated that he had removed a similar lesion from the thigh and that it had included a cyst containing half an ounce of grumous fluid.

DR. HARRIS thought that in view of the section having come from the lower part of the lesion it was proved definitely that it was not a retention cyst. He did not think it possible to have sweat glands of a whole area all occluded. There might be one or a couple, but he could not conceive of a circumscribed mass of sweat glands being occluded and producing such a growth.

#### GRANULOMA ANNULARE. PRESENTED BY DRs. ORMSBY AND MITCHELL.

The patient was a woman, aged 52. The duration of the disorder was two years. The lesions were situated chiefly on the dorsum of the right hand. Isolated ones occurred on the arms and neck. There were no subjective symptoms. The previous history as to tuberculosis or other systemic disease was negative.

At the time of presentation there was a lesion about 4 cm. in diameter on the dorsal surface of the right hand, which presented a convoluted border. The lesion was moderately elevated and had pin-sized crusts here and there on its surface. On the ulnar side of the wrist was a dime-sized area slightly elevated, erythematous and scaly. On the thumb there was a deeply situated papule, whitish in color, slightly translucent, with a depressed center. Relics of lesions were seen on the forearms and about the neck.

Histologically the sections from the lesion on the thumb showed the characteristic area of sharply circumscribed cellular exudate in the derma. In the center of this exudate was an area of necrosis from which all trace of cellular elements had disappeared. The necrosis had extended upward through the epidermis resulting in a slight depression in the center of the nodule.

#### DISCUSSION

DR. VARNEY thought the case was an unusual demonstration and the largest lesion of its kind he had ever seen.

DR. SWEITZER said the section showed the case to be a very beautiful demonstration of granuloma annulare. Clinically the case demonstrated his conception of the affection.

DR. RAVOGLI considered the case a typical one of granuloma annulare, described by Crocker. The little papules which formed the ring were exceedingly large, much larger than any of the other cases which he had seen, but there was no doubt from the microscopic section and clinical appearance that it was a case of granuloma annulare, of which neither the etiology nor therapeutics is so far well known.

DR. CHIPMAN took exception to the opinions regarding the usual prognosis of granuloma annulare. He had had a little series of four or five cases in close sequence and his observation was that they recovered rather easily. He suggested focal infection as a possible causative factor. In all the cases under his observation they had found a focus of infection either in the teeth or in the tonsil, which, of course, might be merely coincidence, but was at any rate suggestive. He hoped that in every case of granuloma annulare it would be feasible to run down this possibility. He believed the cases did very well under the roentgen ray.

DR. FORDYCE asked if Dr. Ormsby had determined the type of degeneration in the granuloma annulare by any staining methods.

DR. ORMSBY replied that they had not yet had time to do any work on the case. The section had simply been made in the usual way.

## GRANULOMA ANNULARE. PRESENTED BY DR. STILLIANS.

The patient was an American woman, aged 28, who had had an eruption on the elbows for ten years which had gradually increased, and later appeared below the kneecaps and over the tendo Achilles of both feet. None of the lesions had disappeared spontaneously, nor had they yielded to iodids internally or to local applications. The Kromayer lamp had little effect, but radium in good-sized dosage cleared some of them up. The urine was normal; the blood was normal, except for a positive Wassermann reaction. Over each elbow was a pad of fat the skin of which was covered with closely set, yellowish-red papules, flat topped and hard. Below the elbows were several flat, subcutaneous hard plaques varying in size up to half inch in diameter. The section presented with the case showed the typical picture of granuloma annulare.

## DISCUSSION

DR. STILLIANS asked to be allowed to make a belated acknowledgment of the fact that the diagnosis in his case had been made by Dr. Pusey's laboratory technician, who had done the first histologic work on it, by a comparison of the microscopic picture with a picture in Dr. Sutton's book. The case was of especial interest to him because of the entire lack of any tendency toward annular figures, the clinical resemblance to xanthoma tuberosum, and the great resistance to treatment.

DR. PUSEY thought we were getting on in dermatology. A few years ago granuloma annulare was a rare thing, but here were three cases shown in one afternoon. One of these cases had been shown for diagnosis and it "got by" everybody, and then a man without any scientific training who simply had a well developed scientific instinct studied the sections and found them so strikingly like Dr. Sutton's section that he made the diagnosis. Specimens had been sent to Dr. Hartzell, who said it was an absolutely typical case of granuloma annulare.

## CASE FOR DIAGNOSIS. PRESENTED BY DR. HARRIS.

The patient, aged 32, for seven years had had on the scalp and scrotum patches of a scaly dermatosis. The patches on the scalp were somewhat infiltrated and covered with thick, closely adherent scales. There was only slight itching. The lesions, as far as the scaliness was concerned, improved under any form of treatment, but did not get well. When one attempted to remove the scale, it was so adherent that it caused bleeding.

Over the right ear was a dollar-sized patch and just within the hair line anteriorly were several much smaller ones. When the scales were removed the lesions were red and somewhat infiltrated.

## DISCUSSION

DR. HARRIS said he saw a number of cases of lichen chronicus or neurodermatitis but he thought this was a different case. The man had been under treatment for seven years and the patches recurred repeatedly. He had been treated with the quartz light sufficiently to produce a blister and still they came back. The itching was not severe like in the neurodermatoses. The man had a similar lesion on the scrotum. He thought it was the condition that Dr. Pusey described in his book as persistent, scaly patches of the scalp. The man had been also under Dr. Pusey's care for six or eight months and neither of them helped him any.

DR. PUSEY agreed with Dr. Harris that the scaly patches on the scalp were an entirely different condition from the lichenification.

## MELANODERMA FROM RECURRENT ERYTHEMA MULTIFORME.

Presented by DR. HARRIS.

The patient was a Hebrew man, aged 56. Two years ago he developed a hemorrhagic type of erythema multiforme. The face, hands and feet were involved first, but later attacks involved the trunk. He had had in all, about ten attacks, the last one six months ago. After each attack the lesions left the skin deeply pigmented. The skin of the face, upper extremities and upper part of the trunk was a deep brown color, but not so dark as it had been. Since using a laxative water constantly to keep the bowels free he had not had an attack.

## DISCUSSION

DR. HAZEN thought that in the negro it was not uncommon for erythema multiforme to leave pigmentation.

DR. HARRIS stated that the man entered the hospital with the typical lesions of erythema multiforme. He returned in a few weeks with a new crop of lesions, which, however, were hemorrhagic and in addition the skin of the face was a deep purple and swollen, just the appearance seen in patients suffering from accidents compressing the chest.

DR. WISE said that in the paper published by Abramowitz in *THE JOURNAL OF CUTANEOUS DISEASES*, recently, five similar cases were described, encountered in the dermatological service of the Vanderbilt Clinic. He had seen two cases which proved to be due to the ingestion of phenolphthalein, but in all the other patients, he was unable to discover the cause of the pigmentary and erythematous changes in the skin. The disease was no doubt due to toxins of different origin and character.

## SYRINGOMA. Presented by DR. SHAFFNER.

The patient was a man, aged 21, who presented lesions on the chest which had been present since early childhood. The lesions consisted of numerous pink, solid elevations of the skin, with no inflammatory characteristics, varying in size from pinhead to pea. The tumors were situated entirely on the anterior aspect of the chest, extending from the clavicle to the epigastrium. There were no subjective sensations. Microscopic section showed a typical syringoma.

## DISCUSSION

DR. HEIDINGSFELD was reminded of a case shown last year in which the distribution was different. They were typical dermoid cysts.

DR. SUTTON said that formerly the differential diagnosis of this condition had puzzled him a great deal. As a result of Prof. William Welch's discussion (*J. A. M. A.* 58:333, 1912) he was enabled to see the light, and he now felt sure that any careful observer could distinguish the histologic differences which characterized syringocystadenoma, ancanthoma adenoides cysticum, and carcinoma basocellulare of Krompecher. Dr. Shaffner's case was a beautiful, representative example of syringoma.

DR. HAZEN thought there was little to add to what Dr. Sutton had said and he agreed with him absolutely. Tumors of the sweat ducts usually showed exactly the same picture, and in both varieties of cases pilocarpin usually caused the same enlargement of the tumors.

DR. HARRIS doubted whether the fact that the cysts dilated under pilocarpin meant anything. It had the same effect on many other glandular structures.

DR. SHAFFNER said he had given the boy pilocarpin without producing any effect on the growths.



## PSEUDO-PELADE. Presented by DR. HARRIS.

The patient was a man, aged 59. For several years he had noticed that the hair on the top of his head was getting thin. There had never been any eruption or scaliness. Over the vertex were scattered irregular areas of alopecia, varying in size from 1 to 3 cm. These areas which were completely bald, still showed the hair follicles, but were somewhat depressed. The condition was preceded by no inflammatory reaction.

## PSEUDO-PELADE. Presented by DR. ORMSBY.

This was the case of a woman patient, aged 35. The duration of the disorder was one year. The patient had been treated for several months at a Marinello shop under the supposed diagnosis of alopecia areata with the promise of a restoration of the hair. The lesions occurred without preceding inflammatory process. They were pea to dime-sized, depressed, atrophic areas entirely denuded of hair; one larger area was present in front throughout which were scattered hairs and small scars.

## DISCUSSION

DR. HARRIS thought the cases were interesting, as the loss of hair was almost complete as in alopecia areata; the skin, however, showed distinct atrophy. The therapy in these cases was very discouraging and he would be pleased to hear of something in a therapeutic way. He had tried almost everything from this standpoint—light therapy, stimulation, etc., but had been very much disappointed.

DR. HEIMANN asked for an expression of opinion. He had been interested in the matter of pseudo-pelade, and the sum of his experience in having heard discussions in Europe on the whole question was this: that pseudo-pelade and folliculitis decalvans were synonymous. Many thought that these diseases were in one group; on the other hand, some believed that the inflammatory type with the pustular ring was related to impetigo of Bockhart but was in an atrophic stage. If these views were correct there would be two well defined groups; one leading to atrophy such as was seen in favus, lupus erythematosus, and perhaps the atrophic stage of keratosis pilaris, etc.; the other a suppurative folliculitis also leading to atrophy.

DR. ORMSBY said that he had seen a number of cases in the last few years in none of which was there any inflammatory process preceding the alopecia and atrophy. The areas varied in size from split-pea to silver half dollar, would gradually progress to a certain size and then stop. He believed pseudo-pelade was an entity without known etiologic factor. One point to which he wished to call attention was that this patient had been treated for six months by the Marinello method. He constantly saw diseases of the scalp in patients treated by these people, and believed they should not be permitted to treat scalp disorders. This patient was treated for alopecia areata and was promised that the hair would return. He thought it was the duty of the members of this Society to see that people were protected from such concerns.

DR. PUSEY agreed with Dr. Ormsby and thought the best way to take it up was to refer it to the County Medical Society and get them to take some action. He had recently seen a statement to the effect that electrolysis was put down as the practice of medicine.

DR. FOERSTER stated that he had recently seen two cases in a brother and sister, both of whom were distinctly ichthyotic. He thought this might throw some light on the situation.



## ATROPHIC BALANITIS (CROCKER). Presented by DR. HARRIS.

The patient was a man, aged 43. For years he had had a long foreskin with a recurrent balanitis. About a year ago an area diagnosed as epithelioma was removed. An infiltrated area removed three months ago showed no malignant changes. At presentation the skin covering the glans was smooth and atrophic with a tendency to develop rather adherent scales.

## DISCUSSION

DR. HEIMANN had never seen a case of this type. He asked if in the development and evolution of the condition it corresponded to scleroderma, and if so, did it belong to the same type as kraurosis vulvae?

DR. SCHOLTZ thought it was hard to understand how balanitis, as such, could lead to the ulceration and atrophy of the skin unless through some of its complications, such as a secondary pus infection, or through involvement of the prepuce by any dermatosis capable of atrophic changes.

DR. HARRIS said the man had had an inflammation of the preputial sac; the foreskin could be retracted but there was a chronic scaling. Finally he was circumcised. Later on, a nodule developed on the right side, which was excised. He saw him a few months later with what looked like a recurrent epithelioma, which was also excised. The glans was smooth and there was no history of venereal infection. There was a tendency to scaling all the time and the case reminded him of a lupus erythematosus. He believed it was in the same class with kraurosis vulvae.

## LICHEN NITIDUS. Presented by DR. HARRIS.

The patient was a physician, aged 35, who for three years had had an eruption on the glans penis. The eruption consisted of a group of about twenty roundish, bird-shot size, slightly elevated papules which were of a somewhat lighter color than the surrounding skin. There had been no itching and there were no other lesions on the body or mucosa of the mouth. There had been no change since the first appearance. The papules were sharply circumscribed and all were of about the same size.

## DISCUSSION

DR. PUSEY did not believe the eruption was lichen nitidus. In the case seen by him some years ago the papules were a small pea size. The appearance of this case was different from his and from the description of lichen nitidus.

DR. HARRIS said he gave it that name because he did not find any evidence of lichen planus. The description of lichen nitidus was that the lesions were lighter than flesh color.

## CASE FOR DIAGNOSIS. Presented by DR. HARRIS.

The patient was a woman, aged 51. For twenty-five years she had had several erythematous, slightly infiltrated patches in the scalp. Unless treated, the patches were covered with thick adherent scales, the removal of which caused bleeding. The condition had been persistent, causing no alopecia and only slight periodic itching. Just within the hair line in the occipital region, was a half dollar sized, thickened area covered with scales. Over the anterior part of the right parietal region was a similar lesion, although smaller. There had never been any lesions on the limbs or trunk.

## DISCUSSION

DR. HAZEN considered it a case of lichen and stated that he had had several cases of this type. One case had cleared up under a mild pilocarpin ointment, 10 grains to the ounce, which was rubbed in.

DR. FORDYCE had seen several similar cases and called the condition lichenification. He had succeeded in curing them by painting the surface with a 25 per cent. solution of liquor potassium, scrubbing this off and then applying a 25 per cent. ichthyol. If this was persisted in the thickened skin could be removed.

DR. SUTTON believed the case to be one of lichen chronicus simplex, a neurodermatosis which was characterized primarily by pruritus, with secondary lichenification developing as a result of repeated trauma (from scratching).

DR. PUSEY stated that he saw a relatively large number of these cases of lichenification on the back of the neck and behind the ears. He had treated them for a number of years by blistering them with ultraviolet light, and it helped them very much.

DR. MOUNT said that in treating these cases of neurodermatitis he had resorted to the use of radium and had succeeded in clearing them up by making short exposures, unscreened. Of course, this was not employed on hairy parts.

DR. BURKE had cleared up similar cases with the ultraviolet light and had recently been treating them with chrysarobin, which gave as good a result without the violent reaction of the light. He used 5 per cent. chrysarobin in chloroform, painting it on twice a week.

DR. LIEBERTHAL has seen a number of these cases and had much trouble with them. It was difficult to treat the patches within the hair line and the only thing which had given him results was to shave the affected areas and use the white light of the Quartz lamp with pressure. This caused considerable irritation, however, but it subsided in five or six days.

DR. ORMSBY was of the opinion that in the cases which resisted local treatment, and they frequently recurred in spite of any method employed, arsenic internally would give relief for a longer period of time than anything else, internally or locally.

KOILONYCHIA (ALOPECIA CONGENITA). Presented by DR. ORMSBY.

The patient was presented before the Society in November, 1915 (for description, see *THE JOURNAL OF CUTANEOUS DISEASES*, 35:856, 1917). At presentation the nails showed less concavity, the hair had grown somewhat but the deformed teeth remained as in the first report. The patient was developing physically in a normal manner in other respects.

## DISCUSSION

DR. VARNEY was much interested in the deformity of the teeth and the nails. He thought the symmetrical saucering of the nails or spooned condition was extremely interesting and believed one would have to exclude syphilis as an etiologic factor.

DR. EISENSTAEDT said the condition of the nails was very different from his case, although the hair was practically identical. The cases were first described by White and were of the familial type; in his case three generations were affected.

RADIO-DERMATITIS, LUPUS ERYTHEMATOSUS. Presented by DR. HARRIS.

The patient was a woman, aged 47. For eight years she had had lupus erythematosus which had been treated with roentgen rays and radium. There was rather severe mouth involvement. Practically the whole of the face was

the site of a scar which in some places was thicker than in others. The whole area showed marked telangiectasis and a tendency to scale. Nowhere were there any apple jelly tubercles. On one side of the forehead were some discrete scaly areas of typical erythematous lupus. The inner surfaces of the cheeks and the lips showed dilated vessels and atrophy with thinning of the epidermis.

#### DISCUSSION

DR. FISCHKIN stated that he had known the patient for eight years and had seen her frequently at the Michael Reese Hospital and at the dispensary. When first seen she had typical lupus erythematosus of the scalp and at that time had extensive lesions of lupus exfoliatus of the face. There were many inflamed lesions of the cutis, atrophy of the cutis and then lesions in the mouth. The case went under the diagnosis of lupus erythematosus because of the distinct patches on the scalp. It was a lupus vulgaris exfoliatus which had been from the beginning associated with lupus erythematosus of the scalp.

#### PITYRIASIS RUBRA PILARIS. Presented by DRs. ZEISLER.

A girl of 8 years presented a typical case of Devergie's disease of four years' duration. There were present follicular papules on the dorsal surface of the hand, nut-meg grater patches on the trunk, scaliness of the face and scalp and thickening of the palms and soles. There had been some improvement under thyroid therapy.

#### LUPUS CARCINOMA. Presented by DRs. ZEISLER.

The patient, a girl of 21, had had a lupus of the nose and cheeks for six years. For four years she was treated with roentgen rays on an average of two to three times a week. Four months before presentation a hard nodule appeared on the upper lip, which had grown rapidly in spite of roentgen-ray and radium treatments. A photograph of her condition one month previously was shown. There was an ulcerated hard tumor on the upper lip extending into the nostril and infiltrating the cheek. The side of the face showed roentgen-ray telangiectasia and scarring, with a few active lupus nodules at the border. Microscopic examination showed squamous celled carcinoma.

The lesion was treated under general anesthesia with electro-thermic coagulation (diathermy) followed by radium therapy. The result appeared favorable in what was apparently a hopeless case.

#### DISCUSSION

DR. PUSEY said he had seen this case before it was treated, and at present it was a brilliant result. He had collected a group of carcinoma which had resulted in lupus where there had been no radiotherapy at all.

DR. EISENSTAEDT stated that he had had more or less experience with this method of treatment for three and a half years, and in these cases it was very successful. Carcinoma of the lip in his hands received nothing but treatment with diathermy.

#### CONGENITAL KERATOSIS OF PALMS AND SOLES. Presented by DRs. ZEISLER.

The patient was a woman, aged 32, who had had the disorder since birth. A family chart showed that nineteen members of four generations had the disease.

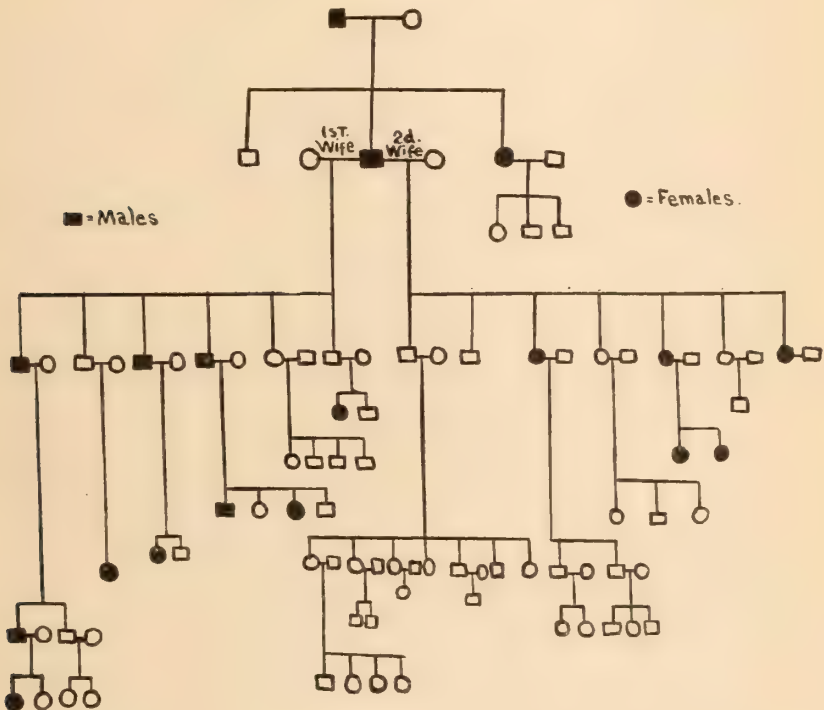
## DISCUSSION

DR. HEIMANN thought the interesting feature of the case was the hereditary chart. The disease always seemed to have been transmitted by the male, just the reverse of hemophilia.

DR. LIEBERTHAL said that he had on record twenty-eight cases in one family.

**MYCOSIS FUNGOIDES, PREMYCOTIC STAGE.** Presented by Drs. ZEISLER.

The patient, a woman, aged 32, had had lesions for seven years and had been treated for eczema for a number of years. She came under the speaker's treatment two years ago with several erosive tumors of walnut size in the right axilla, a large eczematoid patch in the right groin and smaller scaly, round patches in other localities.



Family chart in a case of congenital palmar and plantar keratosis.

The lesions entirely disappeared under roentgenotherapy and arsenic treatment. A recurrence in 1917 cleared up under the same treatment. The lesions at the time of presentation were disappearing. The case was reported in full in the Chicago Medical Clinics of 1916.

## DISCUSSION

DR. FORDYCE stated that he recently had a patient under his care who had typical mycosis fungoides, and whose life had been made miserable for weeks with the intense itching which interfered with her sleep and her nutrition. He tried roentgen rays but did not continue the treatment long as he thought there was no effect. Then in desperation he gave an intravenous injection of



typhoid and paratyphoid vaccine. Within twenty-four hours the itching entirely disappeared and within a week many of the lesions had cleared up.

DR. LAIN said he had a similar experience with roentgen rays to that of Dr. Fordyce and thought there was yet some hope in the treatment of mycosis fungoides. In one case shown at the Detroit meeting of the American Medical Association, roentgen rays had given the patient relief of the itching and he returned every few months for more treatment. For quite a while he had sometimes given temporary relief to the stubborn cases of urticaria by injecting any kind of vaccine which might be convenient.

DR. HAZEN asked Dr. Fordyce if in the intravenous injections of foreign proteid there was not, sometimes a very severe reaction, even a dangerous reaction.

DR. FORDYCE replied that sometimes there was a distinct reaction, a definite chill, as a rule, but the greater the reaction the greater the relief.

SPOROTRICHOSIS. Presented by DR. EISENSTAEDT.

The patient was a man, aged 21, who had been operated on two and one-half years before the appearance of the skin lesions for supposedly tuberculous glands of the right side of the neck. The first lesion appeared on the flexor surface of the right wrist, followed by other lesions on the right arm, higher up. Thereupon lesions appeared on the right leg above the ankle and one on the right thigh. Lesions subsequently developed at irregular intervals and in irregular patches. Sporotrichia were isolated from the lesions. (This case was reported in full in *The Journal of the American Medical Association*, Aug. 31, 1918.)

#### DISCUSSION

DR. SUTTON said that four or five years ago he had had an opportunity to study a number of cases (twenty-eight in all) of sporotrichosis occurring in and around Kansas City. All were of the ordinary type, and almost invariably followed traumatism of the finger, hand or foot. In the cases reported from France, a number of different sporotrichia have been described, but it was probable, as Meyer and Aird (*Jour. Infect. Dis.* **16**:399, 1915) have stated, that the *Sporothrix beurmanii* is identical with the *Sporothrix schenckii*, and he thought so many hair-splitting differentiations inadvisable. Insofar as he knew, Dr. Eisenstaedt's case was the first one of the tubercular type described from this country. Owing to the danger of the infection becoming disseminated, he thought the patient should receive heavy iodine medication, subcutaneously or intramuscularly if not by the mouth.

DR. RAVOGLI said that at the Cincinnati meeting of the American Dermatological Association he showed a patient who had suffered an ulcer in the flexor surface of the elbow. A culture from this case showed sporotrichosis and the microscope confirmed the presence of the sporotrichon. It was considered a case of sporotrichosis, tubercular type, of de Behrman.

DR. EISENSTAEDT considered the case unusual in that it did not correspond to the cases so-called of sporotrichosis. The patient was supposed to have tuberculous glands of the neck. The portal of entrance for the bacilli was probably either the pharynx or the tonsils.

CASE FOR DIAGNOSIS. Presented by DR. QUINN.

The patient was a woman, aged 21. The family history was good and patient had always been well. Six months before presentation, over an area about 3 inches in diameter on both cheeks, macular erythematous lesions about the size of a large freckle appeared. They were devoid of any subjective sensations, intermingled with telangiectases and some apparent atrophy. She had never had acne or any roentgen-ray treatments. The Wassermann test was negative.

## DISCUSSION

DR. LAIN classified the case as one of acne such as was frequently seen, but thought it might also be included in the cases discussed at the session the previous day. The sequelae and scarring following it he thought indicated an ordinary pustular acne.

DR. CHIPMAN believed the lesions had come from some toxic affair. Evidently there was a certain degree of atrophy and it had occurred to him that the case might very well be included in the group discussed at the session the day before. It might be one of the "tuberculids."

DR. WISE said the patient had never had blackheads or pimples and therefore the acne could be ruled out. There was very little atrophy, but a moderate telangiectasis and an erythema which disappeared partly under pressure. There was apparently no injury and he believed it was either an idiopathic telangiectasis or a lupus erythematosus.

DR. PUSEY thought it was a telangiectasis, similar to the condition which often occurred in old men when the whole face became red. He believed it was possible to get a telangiectasis in a small area and considered this a sufficient diagnosis.

DR. HAZEN thought there was too much perifollicular atrophy to accept Dr. Pusey's diagnosis of telangiectasis.

CARCINOMA OF PALATE. Presented by DRs. WAUGH and MACKEY.

The patient was a man whose trouble began three years ago as a bluish-black pigmented nodule on the hard palate near the alveolar margin. Almost from the beginning the pigmented area extended at least 1 cm. beyond the ulcerated portion of the lesion. A microscopic examination proved it to be carcinoma.

## DISCUSSION

DR. RAVOGLI did not doubt the diagnosis of carcinoma of the hard palate, but was trying to discover the etiology. It was his opinion that the carcinoma was implanted on an ulcerated gumma, and that persistent ulcerative irritation had produced the carcinoma.

CASE FOR DIAGNOSIS. Presented by DR. STOKES.

The patient, a woman, presented a lesion on the left cheek, which began as a small hard spot eighteen months before, following trauma. When first seen the lesion consisted of two small, moderately indurated spots, slightly elevated, showing definite follicular dilatation with plug formation and adherent scaling; no telangiectasia. Since first seen the lesion had gradually enlarged to the present size regardless of therapy. The Wassermann test, direct and provocative, had been repeatedly negative.

Following the first injection of arsphenamin the lesion showed a definite improvement, but a second injection was without effect, and the lesion had progressed from that time. The patient took Fowler's solution over a period of three weeks without effect. General examination, urine and blood were negative. Five exposures to the Kromayer lamp had produced no effect.

## DISCUSSION

DR. FORDYCE thought it was a case of sarcoid.

DR. WISE agreed with Dr. Fordyce.

DR. HAZEN thought the only question was whether it was sarcoid or an acute lupus erythematosus. Such cases were occasionally found, and Dr. Howard Fox had reported a case in which there was difficulty in differentiating one of them. He favored the diagnosis of sarcoid.

DR. PUSEY believed that the case corresponded very closely to Crocker's cases of erythema elevatum diutinum. He was not prepared to say it was not sarcoid, neither was he prepared to say that the condition was not identical with granuloma annulare.

DR. STOKES said the case when first seen could scarcely be differentiated from lupus erythematosus. It had looked more and more like a sarcoid and the patient had accordingly received treatment with arsenic. Arsphenamin had been without effect after the first injection. A differential blood count had shown no signs of leukemia. Dr. Pusey's suggestion of erythema elevatum was a diagnosis that had not been considered.

DR. ORMSBY inquired as to the amount of arsenic administered and the length of time of its administration. He thought in some of these cases the treatment had to be prolonged to achieve results.

DR. STOKES replied that the patient had been under treatment for three weeks with Fowler's solution, 7 m. three times a day, and had two injections of original arsphenamin. After the first injection she had improved rapidly but the second injection had had no effect, and the lesion had continued to enlarge.

DR. ORMSBY stated that at the last meeting of the American Dermatological Association held in Chicago he had shown a case of sarcoid in which lupus erythematosus had been present in the scalp and over the face and forehead for more than twenty years. The patient was put on arsenic and after persistent treatment recovered completely. The deep nodular and plaquelike lesions present at the time the patient was exhibited resembled those seen in this patient.

#### SCHAMBERG'S DISEASE. (PROGRESSIVE PIGMENTARY DERMATOSIS.) Presented by DR. SHAFFNER.

The patient was a male medical student, aged 21, who had had the lesions for four years. They were first noticed following an attack of scarlet fever. Both feet and legs presented patches of brownish pigmentation symmetrically distributed. The malleoli as well as the skin over the large veins of the dorsum of the feet were entirely free from the lesions. There was considerable atrophy of the skin on the lateral aspects of the feet. The patient stated that the disease had regressed in certain areas of the feet and progressed upward on the legs. On the left arm was a large pigmented verrucous nevus, which had been present since birth.

#### SCHAMBERG'S DISEASE. (PROGRESSIVE PIGMENTARY DERMATOSIS.) Presented by DR. STILLIANS.

A barber, aged 30, born in Russia, who had come to this country twelve years ago, first noticed the brown spots over the lower ends of the shins, eight years ago. Since then they have spread slowly without subjective disturbances. Three years ago the varicose veins were noticed, and the psoriasis began one year ago. At both sides of the lower part of the legs, the pigmentation spread down behind the bony prominences, then forward along the side of the foot. No typical cayenne-pepper spots could be made out. On the upper part of the front of the legs were several large psoriasis lesions.

#### DISCUSSION

DR. WISE said that one of the patients, a medical student, seemed to him to be a classic example of progressive pigmentary dermatosis, as described originally by Schamberg. With regard to the other patient, he did not think it to be a similar disease, but rather an example of so-called dermatitis hemostatica, described by Klotz in THE JOURNAL OF CUTANEOUS DISEASES, more than twenty years ago.



DR. PUSEY thought the distinction between hypostatic dermatitis of the legs and Schamberg's disease was that in one there was manifest inflammation and in the other there was not. The essential situation was this: The patient had had varicose veins and hypostatic congestion. In one man the conditions were such that there would be extravasations of blood and a deposit of pigment without any dermatitis. In another man who was older and had tried various things, that produced a dermatitis. He thought the distinction was an unessential refinement and caused trouble for nothing. There had been legs with varicose veins since time began and every grandmother knew varicose dermatitis. Klotz described "dermatitis hemostatica" and now Schamberg's disease had been discovered, and sooner or later some other disease would be described with a little dermatitis but not much. He thought it was a fundamental defect in our mental processes that we separated all these unessential clinical varieties of the same sort of thing. As long as he had seen skin cases he had seen Schamberg's picture and had had nothing added to clear his vision since that clinical entity had been produced. He thought it simply provoked confusion to have so many different terms.

DR. HEIMANN was of the opinion that many conditions could give this picture. He had seen it after eczema, after Schamberg's disease, in the final stages of scleroderma and dermatitis atrophicans. All these diseases could produce this picture, and if we could stop the refinement of terms it would simplify matters.

DR. ORMSBY stated that several years ago he studied the case of a patient suffering with Schamberg's disease and he did much work on the case. In that instance the lesions were on the forearms and thighs and were not due to congestion. He believed there was some cause for it which had not been discovered and that it was not related to the purpuric group. Sections showed a subacute inflammatory process which was different from eczema and purpura and he considered it an entity.

DR. STILLIANS said that he was impressed with the similarity of the distribution of the pigment in the two cases. Unfortunately his case was spoiled by a complicating psoriasis, which had been present only a few months, while the pigmentary changes had been present, extending slowly, for eight years.

DR. SHAFFNER stated that sections showed considerable atrophy and he could not conceive of a dermatosis which came on as this did, without any previous inflammatory process, as being a simple condition. He thought true cases of Schamberg's disease were hard to find in the literature, but this case was apparently an exact replica of the cases described by Dr. L. B. Kingery a few months ago in *THE JOURNAL OF CUTANEOUS DISEASES*.

**LICHEN RUBER MONILIFORMIS.** Presented by DRs. ORMSBY AND MITCHELL.

This patient was shown before the Society in March, 1906, and the case was reported in *THE JOURNAL OF CUTANEOUS DISEASES* 24:85, 1906. The older lesions underwent involution and new ones appeared for three years, when the process apparently ended. For more than eight years it was apparently in abeyance, but a few months before presentation new lesions began to appear about the elbows, where they were still present.

**LICHEN PLANUS ANNULARIS.** Presented by DRs. ORMSBY and MITCHELL.

The patient was a man, aged 25, whose disorder had been present for five months. The lesions were generalized. The trunk and external genitals were covered with closely set and confluent, typical flat, shiny papules, accompanied by much pigmentation. Over the forearms were numerous rings of similar papules, many of which were undergoing involution and were dark red and



brown in color. Marked itching was present. Typical lesions of the disorder were abundantly present on the buccal mucous membranes and tongue.

The process was entirely cleared up with twenty injections of mercuric chlorid in one-fourth grain doses, administered three times weekly.

#### LICHEN PLANUS ATROPHICUS ET SCLEROSIS (HALLOPEAU).

Presented by Drs. ORMSBY and MITCHELL.

The patient was a woman, aged 44, who had suffered with the disorder for one year. She was of a neurotic temperament. The lesions consisted of white papules with irregular bases, flat topped, each containing from two to six black, horny, comedo-like plugs. They were grouped in small patches and occurred on the chest, abdomen and vulva. No sensations were complained of, but a marked pruritis vulvae was present. The case was a classic example of the disorder.

#### DISCUSSION OF THREE PRECEDING CASES

Dr. SUTTON believed this to be a typical case of lichen ruber moniliformis, examples of which had previously been reported and described by Hyde, Bukovsky, Gunsett, and Rona. Kaposi's original case, which was almost a duplicate of one described by him (*Archives Diagnosis*, October, 1913), was very probably not a case of lichen planus at all, but one of prurigo nodularis.

Dr. WISE said it would be difficult to make the diagnosis of lichen ruber moniliformis without being acquainted with the nature of the eruption which preceded the one presented. In this patient, the lesions reminded him of those in the patient presented by Dr. Lieberthal and forming the subject of his paper, read a year ago. In the true moniliform lichen planus, the papules run up and down the trunk and extremities in distinct lines, making the appearance truly moniliform or beadlike. An example was pictured in Taylor's atlas.

Dr. Ormsby's case of lichen atrophicus of the chest was the most classic and well-defined instance of the condition that he had ever encountered.

#### MORPHEA GUTTATA. Presented by Drs. ORMSBY and MITCHELL.

The patient was a woman, aged 32, who was first shown before the Chicago Dermatological Society in May, 1913. (For description of the case see *THE JOURNAL OF CUTANEOUS DISEASES*, 33:391, 1915.) At this presentation many lesions had undergone involution, leaving delicate atrophic areas. New lesions of the original type had continued to develop, so the patient still exhibited typical lesions in the original areas.

#### DISCUSSION

Dr. HAZEN thought the case was not very typical. It looked to him like an infection around the hair follicles with a certain amount of atrophy following.

Dr. STOKES asked what results Dr. Ormsby was getting with radium in the treatment of this disorder.

Dr. ORMSBY said there had never been an inflammatory reaction. The pigmented areas extended downward over the arm and forearm and upward over the shoulder. This case differed somewhat from the other morphea guttata case which was exhibited but there were many characteristics of the disorder. In the past these cases with small lesions of morphea and those presenting the picture described by Hallopeau as lichen planus trophicus et sclerosus had all been put in one group and called "white spot disease." He believed that all such cases could be properly placed in one of the two groups and that the term "white spot disease" should be eliminated. No radium had been employed in this case. The treatment had consisted of ointments locally and thyroid extract internally.

## URTICARIA PIGMENTOSA, ACQUIRED. Presented by DRs. ORMSBY and MITCHELL.

The patient was a woman, aged 23. Duration of the disorder, two years. The lesions were situated on the shoulders, arms, forearms and dorsal surface of the hands, the trunk, thighs and legs, and were said to have begun simultaneously. They were brownish-red macules and maculo-papules. On irritation, urtication resulted.

## URTICARIA PIGMENTOSA, ACQUIRED. Presented by DRs. ORMSBY and MITCHELL.

The patient was a woman who was presented before the Chicago Dermatological Society, March 21, 1916, and reported in *THE JOURNAL OF CUTANEOUS DISEASES*, 35:855, 1917. At this presentation the case showed similar features. No new lesions were developing, all the original ones were present and had apparently undergone no change in the two years the patient had been under observation. She was presented at this time for comparison with the preceding case.

## DISCUSSION

DR. PUSEY called attention to the fact that this case developed in adult life and wished to place himself on record as believing that the two conditions, urticaria pigmentosa of the classic type and the adult urticaria with pigmentation were essentially the same in many cases. He showed an adult case in which there was a pure infiltration of mast cells.

DR. E. P. ZEISLER said that he had expected to demonstrate a physician of 62, who had a typical urticaria pigmentosa which began at the age of 58.

DR. HEIDINGSFELD considered the case very typical. He had seen cases of urticaria followed by pigmentation, which was a different type.

DR. ORMSBY stated that he had had two other cases, one was a new one and the other was shown at the Society a year before. He had seen three cases in two years. It was not necessary for mast cells to be present in the histologic section of the adult type, whereas they were always present in abundance in the infantile type.

## ARSENICAL KERATOSES OF THE PALMS, WITH HEALING EPITHELIOMA. Presented by DR. STILLIANS.

The patient, a Bohemian explorer, aged 57, took arsenic in large doses for over a year to prevent malaria while in Central Africa, thirty years ago. Five years later palmar keratoses appeared. Twenty months ago an epithelioma began on left palm, being represented by an ulcer one-half inch in diameter and three-sixteenths inch deep; roentgen-ray treatment was given. At the time of presentation the ulcer was healed, only a small induration indicating the remains of the epithelioma. The keratoses were kept pared down for the sake of comfort. No glands were palpable on the arm or in the axilla.

## DISCUSSION

DR. PUSEY said he had many years ago a case of psoriasis that showed an arsenical keratosis of the hands and he photographed them at that time. After twenty years the patient returned with a good sized carcinoma at the side of his hand in one of these keratoses.

DR. HAZEN believed that carcinoma following arsenical preparations would be likely to metastasize through the lymph glands and that the mortality was very great.

## CASE FOR DIAGNOSIS. Presented by DR. STOKES.

The patient was a woman, aged 52, who had been twice married. When first seen the dermatological condition was substantially the same as at the time of presentation, except that there was markedly greater brawny, edematous infiltration of the skin of the affected areas, somewhat more marked limitation of motion of the arms and head (hide-binding); the affected regions were markedly redder. The desquamation had always been trivial. Occasionally a tendency to superficial erosion of the epidermis appeared, but no true vesiculation or oozing had been observed. The patient's health had been good up to 1910, at which time a subtotal hysterectomy had been performed for uterine myoma. Three years later menopausal symptoms had appeared. She had four healthy children, and two miscarriages by the second husband. She complained of weakness, which had been rapidly progressive since December, 1917, could scarcely walk and had been confined to bed. There was stiffness and soreness in the muscles, itching and burning of the affected skin; no pain. The onset was one year ago, following a cat scratch on the neck.

*General Examination.*—Urine negative; Wassermann test negative, both direct and provocative. Blood pressure, 155-75. Blood Findings: Hemoglobin, 58 per cent.; red cells, 3,180,000; white cells, 8,800; no differential count. Fundus oculi negative. Tonsils, septic type. Ear: bone conduction reduced five seconds. Mouth: roentgen ray of teeth negative (?), marked pyorrhea and oral sepsis. Atrophic or sclerotic changes in the tongue. Neurologic examination showed weakness due to muscular changes; nothing definite in the central nervous system.

Treatment had consisted of extirpation of foci of infection in the mouth and throat, alpha-iodin (thyroid active principle), 0.25 mg. daily, and 2 grains anterior lobe pituitary gland daily.

A section from the affected area of the right arm was exhibited.

## DISCUSSION

DR. PUSEY considered the case exceedingly interesting. If it were not for the telangiectasia he thought it would be accepted as a case of diffuse scleroderma. He thought the telangiectasia was quite extraordinary, but still was consistent with the case being a diffuse scleroderma. He believed the condition to be a diffuse scleroderma with extraordinary and extreme telangiectasia.

DR. KETRON was very much interested in the microscopic preparations from this case because they resembled somewhat those taken from a case of a very peculiar type of degeneration of the colloid bundles of the corium which he saw last winter in the Johns Hopkins Hospital.

This case showed, clinically, narrow, whitish, slightly raised lines in the skin which were most pronounced about the chest and neck. Microscopically, there was a degeneration of the collagenous tissue which usually involved only a portion or a section of a bundle. There was apparently a thin membrane about each bundle which was not destroyed by the degenerative process. This gave the corium, in some areas, a reticulated appearance. The degenerated material was completely dissolved by the fixative agent. It differed in this regard from the usual forms of colloid degeneration.

He suggested that Dr. Stokes mount some of the tissue from his case in celloidin and cut the sections rather thick. Should this degeneration be present it would then show up very decidedly. If the sections were thin, the arrangement of the bundles was frequently so disturbed that the degeneration was not apparent.

DR. WISE said that a man presenting an identical cutaneous picture was under treatment at the Vanderbilt Clinic. He exhibited large areas of atrophic and pigmented skin, together with patches of edematous and erythematous wheals and plaques, some of them pigmented and stippled. The appearance



simulated the early stages of granuloma fungoides or leukemia cutis, but the atrophy of the skin spoke against such a supposition. The blood picture was negative. The biopsy, taken from an area of slight atrophy, showed very little pathologic alteration, the chief change being a marked atrophy of the epidermis, similar to dermatitis atrophicans. The patient had a large tumor of the abdomen, but had refused operative interference. The skin disease improved very considerably under roentgen-ray treatment.

DR. REEDE was of the opinion that from the standpoint of the internal secretions nothing specific could be inferred. The change which took place following the use of thyrotoxin might be explained by the changes which resulted from the increased general metabolism quite uniformly by this agent in many states.

DR. PUSEY thought negative observations were sometimes useful. He had given pounds, he thought, of thyroid in scleroderma and in his experience it had been quite useless.

DR. STOKES was glad of the interest aroused by the case. The patient was first seen on his service during his absence, and a tentative diagnosis of atrophy due to syphilis had been made, since a somewhat similar case of the latter type had recently been seen. He had, however, developed the habit of scrutinizing the tonsils and teeth of patients with dermatitis associated with atrophy, and in this case had identified an extreme pyorrhea and badly infected tonsils. The condition of the patient as originally seen, however, had led him to make a diagnosis of the edematous type of scleroderma rather than a dermatitis. The skin was firm and brawny, the edema was so marked as to produce a pig-skin indentation of the follicles, there was marked hide-binding of the joints and limitation of movement about the mouth, face and neck. Dr. Ketron's remarks were of special interest in view of the biopsy findings. The infiltration and brawniness of the skin was apparently due not so much to a simple lymph edema, but to the presence of a mucinous substance which, however, took the eosin element of the polychrome stain appearing as a pinkish band across the papillary and subpapillary layers of the cutis. He had not as yet had opportunity to make a painstaking study of the vascular changes for evidence of endarteritis.

The most remarkable feature of the case clinically had been the improvement which followed the extirpation of the foci of infection in the tonsils and teeth. Although there had been no definite alveolar abscesses, the removal of seven or eight bad teeth had resulted in a definite improvement in the patient's general condition. The stiffness had diminished, the edema of the skin subsided markedly, and the inflammatory symptoms subsided at least 30 per cent. Following the removal of the infected tonsils she had experienced a marked temporary exacerbation with crusting and rapid desquamation. This again subsided and a further improvement took place, bringing the patient about to the condition in which she was shown. Owing to the difficulty of approaching such questions with means of investigation, the endocrine phase of the etiology was perforce left obscure. Dr. Plummer had not felt that there was any ascertainable thyroid pathology. As an empirical measure she had been placed on alpha-iodin, the active principle of thyroid gland isolated by Kendall, with a view merely to increasing the vascularity of the skin. This effect could be accentuated by the use of the anterior lobe of the pituitary gland. The action was not specific so far as he could see, but merely incidental to the effect of these drugs on the vascular system through the acceleration of metabolism.

**NODULAR LEPROSY.** Presented by DR. HARRIS.

The patient was Greek, aged 29. He had been in the United States two years. About one year ago he noticed small papules on the face, neck and hands which were somewhat darker than the normal skin and showed a ten-



dency to ulcerate. The ulcers healed very slowly. The backs of the hands, the face and neck showed scattered pea-size elevations, the supra-orbital ridges were more prominent than normal. There was a general adenopathy. There were no lesions of the mucous membranes. The skin of the trunk was negative except for some anesthetic areas. The scalp showed various sized areas of partial alopecia.

An excised nodule showed lepra bacilli in abundance.

#### TUBERCULOSIS VERRUCOSA CUTIS. Presented by DR. HARRIS.

The patient was a colored man, aged 36. For four years he had had a fistula in ano. For three years he had had the present condition. To one side of the rectum and surrounding the fistula, was a dry warty growth about the size of half an orange. It was sharply circumscribed and of firm consistency. Biopsy showed the histologic picture of tuberculosis.

#### DERMATITIS HERPETIFORMIS. Presented by DR. HARRIS.

The patient was a girl, aged 17. For about seven years she had had recurrent attacks of elevated wheal-like lesions, varying in size from a pea to larger than a palm. There had never been any vesicles, but over many of the lesions the skin would desquamate, leaving a weeping surface resembling a pemphigus vegetans.

All parts of the body had been involved, but the condition had been especially severe on the inner side of the thighs and about the genital region. The lesions would last for several weeks and then gradually disappear, leaving pigmented areas. Itching at no time had been very severe and was confined to the early lesions.

Scattered over the trunk and extremities were irregular, elevated, flat papular lesions, varying in size from a pea to palm size. The surface of many was covered with a sero-purulent crust, others showed an anemic center and an erythematous border with an unbroken epidermis.

#### TUBERCULID, BAZIN'S DISEASE. Presented by DR. HARRIS.

The patient was a very well nourished man, aged 29. For about six years he had had a chronic ulcer which had destroyed most of the glans penis; also a recurrent papulo-necrotic eruption on the lower extremities and adjacent part of the trunk. During the past eighteen months he had had several attacks of Bazin's disease. The Wassermann test had been persistently negative, and three doses of arsphenamin produced no improvement.

What was left of the glans showed a small irregular indolent ulcer. The lower extremities showed numerous pigmented scars from 1 to 3 cm. in diameter. On the calves were several large, rounded, depressed and pigmented scars, the result of the previous Bazin's disease.

#### TUBERCULID. Presented by DR. WAUGH.

The patient was a young man, aged 21. The duration of the present trouble was four years. Most of body was more or less involved at different periods. At times the patient presented simultaneously, lesions of the folliclis type on the hands and wrists, the acnitis type on the shoulders and hips and erythema induratum lesions on the lower extremities. The cutaneous tuberculin test was positive. Tuberculin treatment gave no noticeable improvement.

#### DERMATITIS PAPILLARIS CAPILLITII. Presented by DRs. WAUGH and MACKEY.

The patient was a man, aged 31, and had had the present trouble for four years. It began on the dorsum of the neck, near the margin of the hairy

portion of scalp, and gradually spread until a circular area, 2 inches in diameter, was involved. In this area was a firm, pinkish, red, nonpainful area, elevated about  $\frac{1}{4}$  inch, and  $\frac{3}{4}$  inch wide, and  $1\frac{1}{2}$  inches long; surrounding this area were numerous pinhead to split-pea-sized lesions of similar structure. The patient was first treated on April 23, 1918, since which time he had had radium treatment on the large area and roentgenotherapy in divided doses on the remaining lesions. The improvement was marked, the elevation of the large area being reduced fully 50 per cent. and many of the smaller lesions had practically disappeared.

**DERMATITIS HERPETIFORMIS.** Presented by DR. McEWEN.

The patient was 26 years old. For five years he had had recurrent attacks of an itching skin eruption consisting of grouped vesicles. The trouble first began on the back of the neck and arms, later extending to other parts of the body. Recurrences had been approximately monthly; the condition was always unfavorably influenced by damp weather; otherwise the patient could throw no light on the etiology. The cycle of lesions comprised (1) small, irregular urticarial patches, markedly pruritic; (2) vesicles, small and large, developing on these areas; (3) torn, crust covered and infiltrated papules and nodules, secondary to scratching, and (4) pigmented areas, representing former lesions. There were no mouth lesions, but the tonsils were not in good condition.

The case was presented as one of typical dermatitis herpetiformis. Auto-serum therapy had had no beneficial effect; the greatest improvement had come from the use of arsenic.

**FAVUS.** Presented by DR. McEWEN.

The patient was 13 years of age, and had had the present condition for four years. It developed as a diffuse dry seborrheic scaliness of the scalp and about four months later typical scutulae developed. Fungus was demonstrated microscopically and by culture. (Reported in *THE JOURNAL OF CUTANEOUS DISEASES*, **36**:321, 1918.)

**FAVUS.** Presented by DR. McEWEN.

The patient was a Jewish boy, aged  $6\frac{1}{2}$  years. The parents said the trouble had been present for five years. The hair was thickly matted with a dirty white mortarlike mass, which under the microscope appeared as a mass of mycelium and spores. Careful examination showed some favus cups.

**DERMOID CYST.** Presented by DR. PUSEY.

The patient was a girl, aged  $2\frac{1}{2}$  years. At birth a small opening was noticed on the bridge of the nose, with several hairs growing out of it. The lesion had been treated by operative measures several times, but had persisted. About fifteen hairs had been removed a week before presentation, but there were several hairs still present.

DISCUSSION

DR. PUSEY stated that it was the second case of the sort that he had had. Several years ago he had a patient with a tumor in the side of the nose, sent with a diagnosis of tuberculosis. Dr. Harris had taken out about 300 eyelashes from the tumor.

**LUPUS ERYTHEMATOSUS.** Presented by DR. QUINN.

The patient was a married woman, aged 32, who had had the disorder for three years. The lesions were located on the nose, eyelid and ear and varied in size from a split-pea to a dime. They were slightly raised, erythematous, with dry, adherent scales, leaving scars.

ANGIOMA IN INFANT TREATED WITH RADIUM. Presented by  
DR. SIMPSON.

(This case was reported in full in *The Journal of the American Medical Association*, 67:1508 (November), 1916.)

XANTHOMA PLANUM AND TUBEROSUM. Presented by DR. STILLIANS.

The patient was a Roumanian Jewess, aged 52, with a liver deformity due to tight lacing; she had had xanthoma planum nearly encircling both eyes, for twelve years. Two years ago nodules appeared on either side of the bridge of the nose and at the left external canthus, and increased in size until they were from about one-quarter to three-eighths inch in diameter. They were hard, painless and adherent to the underlying tissue. The skin over them was not changed except for some dilated blood vessels. Treatment, including radium in good dosage, was not effective. On the right side of the neck were a number of yellow papules.

ANGIOKERATOMA. Presented by DR. PUSEY.

The patient was a single woman, aged 29, a German Jewess. She had had swollen hands and "chilblain circulation" for many years. Two years ago she noticed pinpoint to pinhead-sized reddish spots on the hands and feet. These had gradually increased in size and number, and some of the ones on the toes had developed warty tops.

DISCUSSION

DR. SUTTON said that angiokeratoma was a comparatively common disorder in England but a rare one in this country. He was anxious to learn if others had found changes in the elastic tissue of the lesions such as he had discovered in one or two cases of the affection. Angiokeratoma of the scrotum was far more common than that of the hands and feet, and as a rule venous stasis (commonly a result of varicocele) also was present.

DR. SENEAR stated that the patient had her tonsils removed and had been operated on for appendicitis before she came to them and as a result she had not been disposed to allow a biopsy. The lesions cleared up very nicely under fulguration, with some scar formation, but some of the old lesion apparently recurred, and many new ones had developed. She had "chilblain circulation" of the hands and feet and in childhood there had been repeated "flushing" of the face without any apparent cause.

DR. HEIMANN thought concerning the histology of the vessels that they were always as Dr. Sutton had described them, and the loss of elastic tissue accounted for the telangiectases.

BLASTOMYCOSIS. Presented by DR. McEWEN.

The patient was a negro, aged 42. He had had the present trouble for thirteen years; it began as a pustule on the side of the penis and had extended upward to above the umbilicus, and backward over the perineum to the perineal region and adjacent buttocks. The perineum, penis, scrotum and whole lower abdomen were involved in a deep contracted scar, while at the borders the active lesions presented the typical warty patches. He had improved greatly under treatment, but the disease always gained headway after he left the hospital. A small lesion on one thumb had remained well, however.

DERMATITIS HERPETIFORMIS VEGETANS. Presented by DR. McEWEN.

The patient was 42 years of age. About three years ago, while pregnant, the patient developed vegetative lesions under the breasts and in the pubic region. Later, groups of vesicles formed in other parts of the body which

soon developed a verrucous appearance. The mouth also became involved. Itching was severe. There had been several attacks, each more severe than the preceding, the later attacks taking the form of typical dermatitis herpetiformis. On presentation she showed an extensive excoriation of the lower lip and under the breasts. On the abdomen and thighs were several patches of dermatitis with vegetations at the center and small vesicles and pustules at the periphery. Former lesions, on clearing up, had left sharply defined areas of deep pigmentation. The patient complained of itching and sharp pinching pains which came on in spells and prevented sleep.

**TUBERCULOSIS CUTIS.** Presented by DR. HARRIS.

The patient was a Syrian man, aged 27. The condition had been present for four years, starting about one year after reaching this country. When first seen there was a verrucous lesion on the under surface of the tip of the nose and adjacent part of the upper lip. The lesion was not ulcerated. The septum was absent and no history was obtainable as to the cause. The contour of the nose was preserved, except that the tip was larger than normal and could be lifted up from the upper lip. An excised piece showed a chronic proliferative inflammation with many giant cells. Recovery followed roentgen therapy.

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**NEW YORK ACADEMY OF MEDICINE, SECTION ON  
DERMATOLOGY**

*Regular Meeting, Nov. 5, 1918*

GEORGE M. MacKEE, M.D., *Chairman*

**LUPUS VULGARIS.** Presented by DR. TRIMBLE.

The patient was a white man, aged 37, who presented, from above the brows down to the thyroid region of the neck, a dull red infiltration (iron rust) with a loss of a portion of the alae of the nose, puckered scarring of the upper lip and numerous tiny broken-down nodules. The condition had been present fourteen years and various plans of local treatment had been applied. A roentgen-ray exposure had produced telangiectasis in the scarred upper lip.

DISCUSSION

DR. GILMOUR said that he had presented this case three or four years ago, and that he had reported it in the *Urologic and Cutaneous Review*. Since that time the disease had extended a great deal and the man's health had failed. The patient had lost weight and his condition was much worse than it was several years ago.

DR. ROTHWELL said that the patient had been given many forms of treatment. The lesions had been bored out, cauterized with carbolic acid, and also treated with the Kromayer Lamp and the roentgen ray. The condition seemed to progress in spite of the treatment.

**MELANOMA.** Presented by DR. TRIMBLE.

The patient, aged 78, a Russian, presented on the plantar surface of the right heel a red, granulating area about 3 inches in diameter, bordered by a dark colored rim of thick epidermic tissue. The patient stated that the lesion had been present two years. The Wassermann test was negative. The biopsy examination showed that it was melanotic carcinoma.



## TUBERCULOSIS CUTIS VERRUCOSA. Presented by DR. TRIMBLE.

The patient was a white man, aged 26; who presented over the knuckles of the first and second hand, dorsal surface, two areas of warty formation on a purplish base, indolently inflammatory in appearance, which had been present two years. Between the two warty areas there was a purplish color to the skin, not covered by warty excrescence.

## DISCUSSION

DR. ROTHWELL said the patient stated that he bruised his knuckle two years ago and a pimple developed as a result of the injury. The lesion had increased in size since that time.

## EPITHELIOMA OF THE LOWER LIP. Presented by DR. GILMOUR.

P. M., a man, single, aged 48, born in Ireland, was a coachman by occupation. The patient was an inmate of Manhattan State Hospital and suffered from paranoia. Since his admittance in 1898 he had made chains from horse hair. He would pull the horse hair across his lip and bite it in two. In January, 1918, he developed a lesion on the right side of the lower lip which "looked like a wart" and which had gradually increased in size. The tumor was like a cauliflower, but had hard pearly edges and a base which was 1 inch in width and which involved the entire vermilion border of the lip and was raised about 1 inch from the surface of the lip.

## DISCUSSION

DR. GILMOUR said no biopsy had been made. The patient would be operated on immediately, and he would make a report at a later meeting.

## CHANCRE OF THE KNEE WITH SECONDARY ERUPTION. Presented by DR. WISE.

J. C., a boy, aged 7, presented himself at Dr. Fordyce's clinic with an indurated lesion, about the size of a 25-cent piece just below the patella of the right leg, and a widespread papulo-macular eruption all over the body. The mother of the child submitted the following history: About eight weeks previous to presentation, the patient injured his knee in a fall; the skin was broken and bleeding. He received a dressing in one of the dispensaries near his home. The wound healed slowly and left a hard, plaquelike spot. About three weeks after the injury, spots appeared on the boy's body. There were no genital or anal lesions. Subjectively, the patient seemed to be free of symptoms.

The case presented an example of probable wound infection with the *Spirochetæ pallidæ*, resulting in a chancre.

## DISCUSSION

DR. MACKEE said the boy had been treated by two or three physicians. He had an infected wound which had been cauterized and which remained for several weeks and as it disappeared an eruption appeared on the body. He had enlarged glands in the groin. The speaker said he thought it was a chancre of the skin over the knee joint.

DR. ROTHWELL asked if spirochetes had been found. The condition looked like a maculo-papular secondary rash.

DR. LANE recalled some cases reported by Fournier in his book on extra-genital chancres. One of these was a burn of the finger which was cauter-

ized by a stick of silver nitrate which had just been used to cauterize mucous patches in the mouths of several syphilitic patients. In the usual time a chancre appeared on the site of the burn which had in the meantime healed.

LEUKOPLAKIA OF THE MOUTH AND EPITHELIOMA OF THE TONGUE. Presented by DR. GILMOUR.

H. J., a married man, aged 50. Between the years 1902 and 1913 he smoked 40 cigars daily at his work. Since that time he had smoked thirty pipes of tobacco daily. In the year 1893 he bit his tongue on the right side. He had no trouble with his tongue until six weeks before presentation to the Section when he developed sharp, shooting pains radiating from the back of the right side of the tongue to the tip. These pains came on after eating. Examination revealed a lesion on the right side of the tongue about two-thirds of the way back from the tip. The diameter was about one-half inch. The edges were slightly raised and hard to the touch, and the surface had the appearance of a very thin leukoplakia. There were also patches of leukoplakia on the inner side of the cheeks behind either commissure of the mouth. The speaker intended to give the patient radium treatment.

DISCUSSION

DR. GILMOUR said the patient's occupation had been that of trying out cigars before customers purchased a box. He had formerly smoked an average of from forty to fifty cigars daily.

DR. LANE said this patient had an extremely bad bridge opposite the lesion, which had undoubtedly played some part in its causation.

LUPUS VULGARIS. Presented by DR. TRIMBLE.

The patient, a white boy, aged 14, presented on the right side of the neck, from the middle line to the ear, a yellowish red infiltration of lupus, with crusting. The condition had improved under four or five Kromayer light compression treatments.

LICHEN RUBER ACUMINATUS. Presented by DR. TRIMBLE.

The patient, a white man, aged 45, presented a generalized eruption of yellowish or dirty gray colored papules, capped by adherent horny scales through which projected broken-off hairs, the general surface conveying to the touch the rough nutmeg-grater feeling usually associated with the condition. The eruption was most apparent on the sides of the abdomen, though most of the trunk showed similar lesions. The backs of the phalanges showed the papular lesions with the clustering about the hairs and the horny scales. There were no inflammatory appearances; the eruption was accompanied by only slight itching; and the condition had been presented about one year.

LUPUS ERYTHEMATOSUS. Presented by DR. TRIMBLE.

The patient, a white boy, aged 13, presented on the malar eminence of the left cheek an area of purplish tinged infiltrated tissue, about the size of a half-dollar. When first seen four months previous to presentation, the lesion had appeared as two silver-quarter sized infiltrated lesions, showing purplish borders, and covered by densely adherent scales. The duration was six or seven months. Within the auricle could be seen the plugged follicles commonly seen after the disappearance of lupus erythematosus scales. The case was shown to exhibit an apparently good result from the application of unfiltered Kromayer light compression treatment, applied every three weeks through the preceding four months.

## PUSTULAR FOLLICULITIS. Presented by DR. TRIMBLE.

The patient, a white man, aged 46, presented an ordinary quiescent sycosis of the bearded region of the face. On the lower extremities, beginning at about the trochanter regions and extending to the ankles, there were numerous small pustules apparently connected with the follicles, on a dull red infiltrated base. The condition had been present four months and had been persistent, responding poorly to whatever treatment was applied. One injection of staphylococcus vaccine had produced good results, temporarily, and a later injection may have been responsible for the relapse.

## DISCUSSION

DR. MACKEE said that occasionally the pustular folliculitis in a case of sycosis spread to other parts of the body, such as the pubic region, eyebrows, eyelashes, axillae, etc. Why not, the speaker asked, call such an eruption sycosis. If one were in doubt about the clinical entity, the term follicular pyoderma or pustular folliculitis would answer the purpose.

DR. GILMOUR said it was interesting that the condition extended on one side on the scalp.

## CARCINOMA OF THE PENIS. Presented by DR. CHARGIN.

T. S., aged 71, Italian, married, father of three children. There was no history of phimosis and the patient denied venereal history. The trouble, which was of seven months' duration, began on the glans and at the time of presentation the glans was entirely involved. There was a verrucous growth of the entire glans with a "rolled" border, the lesion being quite hard to the touch. There was a purulent discharge between the warty vegetations. The entire shaft of the penis was somewhat indurated but the skin of the shaft was not involved. There was considerable disturbance of micturition. The inguinal glands were enlarged on both sides.

## SCROFULODERMA. Presented by DR. TRIMBLE.

The patient, a white child, aged 9, presented on the left side of the neck, three or four small puckered areas of dark brown colored scar tissue connected with enlarged cervical glands. The lesions had been present nearly one year and improvement had been evident on general tonic internal medication. The patient had previously had discharging sinuses.

## ERYTHEMA NODOSUM. Presented by DR. TRIMBLE.

The patient was a woman, aged 40, who presented various pink, red, and purplish painful nodules on the arms, buttocks and legs, both in the soft tissues and over body eminences. The duration of the condition was two weeks.

## ECZEMA OR TINEA CIRCINATA (?). Presented by DR. TRIMBLE.

The patient was a woman, aged 54, who presented on the palms and dorsal surfaces of both hands, a scaly, sharply marginated, infiltrated and slightly moist eruption which had been present off and on for sixteen years. The condition was worse in summer and had been absent for three and four months at a time and had been at its worst for six weeks prior to presentation. A microscopic examination for spores and mycelia was negative.

## LUPUS ERYTHEMATOSUS. Presented by DR. TRIMBLE.

The patient, a white woman, aged 46, presented on the bridge and prominence of the nose and on the neighboring portions of the cheeks, a scaly

lesion on a reddened circumscribed base. The patient said the condition disappeared during the winter but had been present off and on during the past nine years. Improvement had taken place under Kromayer light compression treatment.

GUMMA AND SERPIGINOUS AND NODULAR SYPHILID. Presented by DR. TRIMBLE.

The patient was a woman, aged 45, who presented a large gumma of the metacarpal portion of one hand, and various sized nodular and serpiginous lesions on the forehead, scalp, back and front of the neck, and over the whole of the left scapular region and chest. The lesions varied in size from a dime to 8 or 9 inches in diameter. Neither the gumma nor serpiginous lesions showed ulceration. The patient was the mother of five healthy children (according to her own statement) and for ten years these lesions had been appearing. Her Wassermann reaction was + + + +, and she had shown considerable improvement under ordinary mixed treatment.

SYPHILITIC OSTEOMYELITIS OF THE SKULL INVOLVING THE INNER AND OUTER TABLES. Presented by DR. CHARGIN.

The patient, Mrs. L. B., aged 62, widow, married forty-two years, had had ten pregnancies; at present there were three living children. The first five pregnancies apparently bore no relation to the syphilis. The sixth pregnancy resulted in miscarriage and the seventh was still-born. The disease was apparently of twenty-five years' duration. She had had no antisypylitic treatment until eleven years ago when on account of ulcers on the buttocks, she received several intramuscular injections. Two years ago she developed gummas of the legs for which treatment was given for a short time. The scalp condition was of four years' duration. At the time of presentation she showed numerous gummas over the right parietal bone varying in size from a quarter inch to  $2\frac{1}{2}$  by  $1\frac{1}{2}$  inches. Both the inner and outer tables were involved and in two areas the dura was exposed. There was secondary infection of the wound resulting in a great deal of pus formation but no apparent meningeal symptoms. The Wassermann was + + + +. The treatment had consisted of arsphenamin, mercury injections and potassium iodid, but improvement was rather slow, some areas showing healing while in others the process was progressing.

DISCUSSION

DR. GILMOUR said one did not see this type of case in the skin clinics but he had seen it in the surgical department.

DR. OULMANN said that within the past few years he had seen a couple of these cases. In one case even the bone was scraped, the wound was excised and sewn up and the lesion entirely healed and left no mark after two years.

ADENOMA SEBACEUM. Presented by DR. TRIMBLE.

The patient, an Italian child, aged 10, presented on the cheeks, chin, about the mouth and on the nose, small red dilatations about the size of the head of a match, one hundred or more in number, which the mother stated had been present five years. The case was presented to show the effect of Kromayer light compression treatment. Five treatments had been given at intervals of three weeks. Much improvement had been accomplished, temporarily at least.

DISCUSSION

DR. MACKEE said he was interested in the Kromayer lamp treatment of this condition and would like to see the final result in this patient.



## TWO CASES OF GRANULOMA PYOGENICUM. Presented by DR. TRIMBLE.

The first case was a white woman, aged 20, who presented on the back a vascular pedunculated lesion, the size of a cherry, which she was unable to account for and which had been accompanied by no subjective symptoms. The condition had been present two weeks.

The second case was also a white woman, aged 25, who presented on the hypothenar eminence of the left hand, a round, red, granulating patch about the size of a quarter. She stated that the lesion was of about two years' duration, and she had some recollections of having had a needle break off in her hand. Probing about in the lesion failed to reveal the presence of anything like a foreign body.

## DISCUSSION

DR. LANE said that it seemed hardly correct to classify the lesion on the hand as granuloma pyogenicum. It was undoubtedly a granuloma of pyogenic (probably staphylococcic) origin, but the name granuloma pyogenicum had been applied only to typical growths such as were seen in the lesion on the shoulder. This case was interesting on account of its location on the back. Most of these growths appeared on the hands or face. A few days before the speaker said he had seen a typical large granuloma pyogenicum nearly filling the concha of the ear, also an unusual location.

DR. GILMOUR said he had two cases with lesions on the hands. The lesions were granulating, red and vascular and there was a punched-out hole in the hand from the base of which arose the small granulating tumors. The base was pedunculated and when taken off there was a gelatinous yellow fluid. One case was treated with carbolic acid and the cautery and the other with the cautery alone. They both recovered very quickly. There was no history in either case of an injury.

DR. MACKEE said he did not question the diagnosis. He had seen cases look like this and turn out to be rapidly growing sarcoma.

DR. ROTHWELL said in one case the lesion had been present two years and when first seen, on account of the dark blue border which was present, they considered the diagnosis of melanotic carcinoma. The condition was treated with nitrate of silver without improvement. Dressing with dry acetanilid powder had appeared to produce improvement.

## ERYTHEMA INDURATUM AND THROMBO-ANGELITIS OBLITERANS (BUERGER'S DISEASE). Presented by DR. WOODMAN (by invitation).

F. P. D., aged 41, born in Porto Rico, married, developed swellings in the neck and armpits three years ago. He was told he had Hodgkin's disease and recovered. Later he had swollen ankles, with blotches under the skin of the legs, and considerable pain on walking. He had never had syphilis. His Wassermann reaction was negative.

## DISCUSSION

DR. LANE said this case had been under observation for about one year and if Buerger's disease were present, its diagnosis by this time would hardly be in doubt.

DR. OULMANN said the diagnosis might not be positive at the time of second presentation, but when the case was presented a year ago, there were large and deep ulcerations and there was no doubt about the diagnosis then.

DR. ABRAMOWITZ said that one negative Wassermann test would not exclude the possibility of syphilis. The speaker said he recalled the patient and he had large lesions which impressed him as de Mauriac's disease. The patient should be put on syphilitic treatment.

DR. WOODMAN said that this patient was presented one year ago and the opinion was that he had tuberculid or Bazin's disease. After being presented to the Section he developed painful swellings of the feet and seemed to be relieved by wet dressings. The speaker said while he was away on his vacation the patient consulted another physician who said he had thrombo-angeitis obliterans. He could not account for the scars on the legs. It was on account of this experience that the speaker brought the case before the Section the second time, thinking it might be of interest to the members. Was this a case of thrombo-angeitis obliterans? The patient was born in Porto Rico but had lived here most of his life.

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NEW YORK ACADEMY OF MEDICINE, SECTION ON  
DERMATOLOGY

*Regular Meeting, Dec. 3, 1918*

GEORGE M. MacKEE, *Chairman*

GUMMA OF THE PALATE AND TONSILS. Presented by DR. LAPOWSKI.

Mrs. J. H., aged 29, married eleven years, had ulcer vulvae six years ago; no history of secondaries. One year after infection she was treated for an ulcer (gumma?) of the leg. She came to the Good Samaritan Dispensary, Nov. 12, 1913, with several gummas of both legs. The Wassermann reaction was ++++. She received two calomel injections and rubbings, with potassium iodid. The gummas healed in four weeks. In February, 1914, she appeared with a beginning subcutaneous gumma of the left cubital space. Under calomel and potassium iodid the gumma absorbed without coming to necrosis. She disappeared from observation and no treatment was given since March, 1914. She came back to the dispensary, Dec. 3, 1918, with a gumma of the soft palate and infiltration of the right tonsil and adjacent region. She would be treated with arsphenamin intravenously and calomel, the speaker stated.

SPOROTRICHOSIS. Presented by DR. LAPOWSKI.

The speaker said the diagnosis in this woman had been made by exclusion. He had had no facilities in his dispensary for making a microscopic examination or cultures. When he first saw the case, four weeks prior to presentation, there were three lesions. One on the anterior surface of the lower extremity, another on the dorsal aspect of the right hand which was a flat, slightly infiltrated soft nodular lesion and which on pressure would eliminate a mucous whitish, sometimes bloody liquid. Third, a flat lesion around the right eye and adjacent forehead of the same character as on the hand. Each lesion was separate and looked like a nodule. The nodule would ulcerate but not as deeply as a gumma. Under proper treatment the floor of the lesion would be cleared up and epidermization would take place. The speaker said the case was treated with large doses of potassium iodid and a crust would form and disappear leaving a scar as seen on the temple. The patient complained of headache and pain around the lesion and always limited to locations such as the extensor surface of the leg, the right temple, and the dorsal surfaces of the hands. The speaker said when he looked at the lesion on the foot it impressed him as being a gumma but when he saw the development of the lesion on the palm, he had to exclude syphilis and the only other diagnosis was sporotrichosis. The Wassermann reaction was negative. After the application of a mild oil the lesions would disappear.

## DISCUSSION

DR. WISE said he was not sufficiently familiar with this type of sporotrichosis to venture a definite opinion. He had to criticize the fact that the patient had been under observation for seven months without there having been a microscopic examination. He was unable to make a definite diagnosis.

DR. LAPOWSKI said that Dr. Wise's statement in regard to the fact that no microscopic examination had been made was perfectly justified. The condition, however, had been such in the last seven months that it had been impossible to have a microscopic examination made.

LUPUS ERYTHEMATOSUS. Presented by DR. ABRAMOWITZ.

E. F., a young lady, aged 21, born in the United States, had symmetrical semilunar patches of erythema with telangiectases and some atrophy beneath both eyelids. Every conceivable treatment had been tried with the exception of the roentgen ray and radium and the Kromayer lamp, and no beneficial result had been obtained.

## DISCUSSION

DR. WISE asked if radium had been used.

DR. ABRAMOWITZ replied that he had not employed radium in this case. He had seen good results obtained by Dr. MacKee with radium but these results were temporary only.

ERYTHEMA TOXICUM. Presented by DR. LAPOWSKI.

The patient, Mrs. G., was in the seventh month of pregnancy. Before pregnancy she felt well and had had no internal medication. The lesions appeared gradually during the fourth and fifth month of pregnancy involving the face, forehead, neck, shoulders and chest. The lesions were erythematous, papular serpiginous patches with scaly, sharply defined borders. The speaker diagnosed the case as one of angioneurotic erythema toxicans and treated it accordingly. There was very slight improvement on the neck but marked improvement on the forehead and face. A suggestion of tinea was accepted and one application of Lugol's solution was applied to the left side of the chest border. This was followed by the application of ol. cadini and then a mild paste. The result was more pronounced lesions with severe dermatitis. The other parts were not treated, only sweet oil was applied.

## DISCUSSION

DR. ABRAMOWITZ said that this case presented features suggestive of erythema figuratum perstans described by Wende. The speaker called attention to the fact that a differential diagnosis between erythema perstans and lupus erythematosus was at times exceedingly difficult.

DR. LAPOWSKI said he considered the lesions in this patient to be an erythema due to the toxemia of pregnancy.

NODULAR SYPHILODERM. Presented by DR. ROTHWELL.

S. C., a woman, aged 40, from the service of Dr. Trimble at the University and Bellevue Clinic, stated that the lesions began five years previously. They appeared at first as small papules, which soon increased in number and coalesced and formed serpiginous areas. The patient stated that she had noticed that some of the lesions had disappeared without scarring. She presented for examination on the left forearm several grouped serpiginous lesions. They were infiltrated but not ulcerated. Several of them were nodular and bore a strong resemblance to tuberculosis cutis. A nonulcerative patch on

the anterior surface of the forearm, sharply margined, with serpiginous outline, undergoing active evolution at its periphery and involution at its center, markedly resembled a serpiginous syphiloderm. The Wassermann reaction was negative. The case was presented because of its marked resemblance to tuberculosis cutis. Under specific treatment the lesions had markedly improved.

NECROTIC FOLLICULITIS (DIABETES). Presented by DR. LAPOWSKI.

Mrs. C. H. had been under observation for one year. When first seen by the speaker there were many necrotic folliculitides which were taken for syphilis. The Wassermann test was negative. There was sugar in the urine and with the disappearance of the same, the lesions would improve but it was impossible to keep the patient free of sugar as she did not pay strict attention to her diet. A diagnosis of folliculitis in a diabetic was accepted.

#### DISCUSSION

DR. WISE agreed with the diagnosis.

DR. LEVISEUR thought that too much stress had been laid on the fact that the patient was diabetic. The eruption, he said, might be a tuberculid in a diabetic.

DR. LAPOWSKI said that an internist had failed to find any evidence of tuberculosis.

GRANULOMA PYOGENICUM. Presented by DR. TRIMBLE.

The patient, a white man, aged 31, presented on the plantar aspect of one heel, a pedunculated granulomatous growth about 1 inch in diameter. The condition had been present for about two and one-half years; he had been treated surgically more than once; the lesion had repeatedly reappeared after apparent removal; it was a source of annoyance only in walking.

#### DISCUSSION

DR. LEVISEUR agreed with the diagnosis and said that the location was unusual. He suggested excision and thorough cauterization.

DR. GILMOUR understood that the lesion had been excised and had returned. It was the largest example of pyogenic granuloma that he had ever seen.

DR. WISE agreed with the diagnosis but called attention to the fact that large lesions thought to be pyogenic granuloma often proved to be sarcoma.

DR. TRIMBLE agreed that if the excision and cauterization were sufficiently thorough there would be no return of the disease. He had seen lesions of this type and size on the scalp but not on other parts of the body. He did not think that it was a case of sarcoma but as soon as excised the lesion would be examined microscopically and the report given to the Section at a later meeting.

PITYRIASIS ROSEA. Presented by DR. ROTHWELL.

The patient, a white man, aged 29, presented principally on the neck, between the lower jaw and clavicle, various sized circinate lesions, from a 10-cent piece to a half-dollar in dimension, with pinkish borders and slightly infiltrated and yellowish, wrinkled, scaly centers. There were also on the forehead three or four other circinate lesions, minus the same characteristics of color, more dull and greasy in appearance and feel, of about the size of a dime. The eruption was of about six weeks' duration and there had been practically no subjective symptoms. Examination of the scales for spores and mycelia was negative.



## DISCUSSION

DR. WISE, while agreeing with the diagnosis, thought that two other diseases should be considered. These were ringworm and the circinate type of seborrheic eczema. He would exclude the possibility of ringworm by a microscopic examination, while a differentiation between pityriasis rosea and seborrheic dermatitis would have to rest on clinical observation over a longer period of time.

DR. LAPOWSKI said if the condition in the patient was as Dr. Rothwell described it, it was not pityriasis rosea. There was nothing typical about pityriasis rosea, not even the location. The fact that tinea was not found in the scales did not necessarily exclude that diagnosis because a good many times scales were negative when the disease was present. The speaker said he would take a primary lesion and watch the development and then make his diagnosis. He thought the case was one of tinea. He might be able to accept the diagnosis of seborrheic eczema if he could see the case in daylight.

DR. GILMOUR agreed with the diagnosis of pityriasis rosea.

DR. TRIMBLE agreed with the diagnosis. He thought the location was atypical but understood that this was the reason for presenting the case. The lesions he thought were typical of pityriasis rosea, being slightly raised with a pink border and yellowish center and superficial. If they were on the trunk or flank he felt certain that everyone would make a diagnosis of pityriasis rosea. He did not know that an examination for tinea had been made, and of course one negative examination did not mean that it was not tinea but it was reasonable evidence. A negative Wassermann test meant nothing except that it was not positive. The case might possibly prove to be one of tinea, if it did, it was tinea resembling pityriasis rosea. It might possibly be a seborrheic eczema although it was peculiar that it should affect the neck and not the face. The lesions on the forehead were slightly greasy and the speaker thought this was an ordinary seborrhea of the forehead and had nothing to do with the neck lesions.

DR. LANE agreed with the diagnosis of pityriasis rosea. It resembled tinea, but as repeated search for fungi had been made and none found, it was very improbable that it was tinea. He did not agree with Dr. Lapowski that finding fungi in such cases was difficult. They were usually found with ease. In ringworm of the palms, soles and nails it was very difficult, but not in cases of this sort. As for the diagnosis of seborrheic eczema, the usual parts affected were free in this case. It would be as unusual to find seborrheic eczema in this location alone as pityriasis rosea.

DR. LAPOWSKI said there was no way to distinguish pityriasis rosea from certain forms of seborrheic eczema. He could not accept Dr. Trimble's statement that any one passing this case would call it pityriasis rosea unless it was all over the body. He said it was hardly possible to make a differential diagnosis from one or two lesions. If there were no lesions on the body, the speaker said he would consider this case to be one of seborrheic eczema.

## CASE FOR DIAGNOSIS. Presented by DR. REMER:

This was the patient with the lupus vulgaris of the face and neck. Also a large mass in the neck. He was presented several months previously at which time there was an ulceration which had healed under roentgen ray treatment, but he still had lupus. There were nodules over the cheeks. He was presented for diagnosis regarding the tumor of the neck.

## DISCUSSION

DR. LAPOWSKI said he would regard the condition as an infiltrated area due to infection.

DERMATITIS PAPILLARIS CAPILLITII. Presented by DR. LAPOWSKI.

Mr. X presented a deep seated pustular folliculitis on the back of the neck of many years' duration. The skin was thickened and arranged in many folds.

ULERYTHEMA SYCOSIFORME (LUPOID SYCOSIS). Presented by DR. SCHEER.

The patient, aged 63, was a ship carpenter by occupation. He presented a patch on the left cheek about two inches in diameter. This patch was sharply defined with dull red, slightly infiltrated and scaly borders enclosing a central area of pronounced scarring. The lesion began four years ago. On the right cheek there was a dime-sized area of beginning lupoid sycosis.

ULERYTHEMA SYCOSIFORME. Presented by DR. PAROUNAGIAN.

The patient, J. G., a man, aged 46, Hungarian laborer, presented an affection of the bearded portion of the face which consisted of erythema and pustular inflammation around the hair follicles. The condition had been present ten years. In the center of each cheek there were two distinct round patches with apparent atrophy with infiltrated borders and the alopecia was well marked.

## DISCUSSION

DR. WISE agreed with the diagnosis. He said the case was not as typical as the one presented from the Vanderbilt Clinic with lupoid sycosis; the disease in this instance was more widespread and therefore had less well defined margins, but the atrophy and scarring were sufficiently characteristic.

SYPHILITIC OR TUBERCULOUS DACTYLITIS. Presented by DR. LAPOWSKI.

The patient, a baby, had been under observation for eight months. When first seen she had penny-sized ulcerating nodules. A roentgenogram showed the tuberculous form of dactylitis. A Wassermann test made of the patient's mother was negative; but a Wassermann test had not been made of the patient. She was put on antisppecific treatment consisting of rubbings and the lesions absorbed. The speaker said that in spite of the negative Wassermann reaction in the patient's mother and the findings of the roentgen-ray examination, he thought the condition was specific dactylitis, owing to the fact that under specific treatment the lesions disappeared in eight months. He realized that even if the condition were tuberculous there would be an improvement but not as marked as in this instance. Even if the case was pure syphilis it would require a long time for such lesions to disappear. If a relapse took place the speaker said he would have to call it tuberculous dactylitis.

## DISCUSSION

DR. ROTHWELL said that according to the orthopedic surgeons, tuberculosis usually involved only one phalanx or one metacarpal bone whereas syphilis was likely to effect more than one bone. If this were true, the roentgenogram would suggest syphilis rather than tuberculosis in this case.

DR. WISE thought that the case was one of tuberculosis partly on account of the negative Wassermann reaction in the mother and also on account of the sinus that he had noticed, rather characteristic of tuberculous disease involving the bone.

## CASE FOR DIAGNOSIS (COLLOID MILIUM). Presented by DR. ROTHWELL.

The patient, a white man, aged 57, born in the United States, presented on the alae of the nose, more especially on the left side, a nodular infiltration made up of dull-red and pinkish, rather translucent small nodules with suggestive central pitting. The infiltration was confined to that portion of the ala immediately adjacent to the nasolabial fold. There was a history of six or seven months' duration; there was no history of precedent syphilis; no history of miscarriages by his wife and there had been no children. The Wassermann test was negative and there had been only slight improvement after three weeks of antisyphilitic medication.

## DISCUSSION

DR. WISE considered the case to be one of lupus vulgaris.

DR. GILMOUR thought it was epithelioma.

DR. TRIMBLE said that he had first been under the impression that the lesion represented an epithelioma and had also considered lupus vulgaris and syphilis. The man's age—57—and the duration—six months—were against lupus vulgaris. The Wassermann reaction was negative. The speaker said that he wondered if after all the lesions might not consist simply of enlarged sebaceous glands.

DR. PAROUNAGIAN said that the symmetry would speak against epithelioma, and the age and duration would exclude lupus. He thought it was some form of sebaceous gland formation.

DR. MACKEE said that the lesion was not composed of nodules as appeared at first glance. On palpation it was seen that the apparent nodules were empty cysts which could be readily flattened out. The speaker could not make a clinical diagnosis.

DR. ROTHWELL said he would make a biopsy and report at a later date.\*

## IDIOPATHIC MULTIPLE PIGMENTED SARCOMA. Presented by DR. LEVISEUR.

E. S., a Turk, aged 59, twelve years in this country, showed all the clinical evidences of this disease. The eruption was limited to the upper and lower extremities and consisted of bluish black, pigmented spots of dime to quarter size; a few dark-red circumscribed tumors and lastly several infiltrated areas of dusky-red color on the hands and fingers. Two of the tumors on the left foot were topped by large calluses, evidently the result of pressure of the shoe. Horny degeneration of the tumors, independent of local pressure, had been described in the literature. The disease started, according to the patient's statement, two years ago. At that time a small tumor located on the scrotum was excised and the pathologic diagnosis "glioma" was reported to have been returned. Whether any of the lesions on the extremities were present at that time or not could not be ascertained. The only subjective symptoms present were pains in the feet while walking or standing which prevented the patient from following his occupation as a street peddler. There was a moderate amount of albumin present in the urine. The heart and lungs showed no changes. The Wassermann test was negative and the blood count normal.

## DISCUSSION

DR. LEVISEUR said the patient had been given about twelve injections of cacodylate of sodium and there was marked improvement. The speaker said he would like to hear of the experience of some of the men in regard to

\* Biopsy revealed colloid milium.

the roentgen-ray treatment of this condition. One of his patients had been treated with the roentgen ray but he did not get along as well as he had expected so he had come back again to the arsenical treatment. An attempt was made to excise a small piece of tissue for examination but in doing so there was a severe hemorrhage and it was necessary to put in three stitches.

DR. REMER said that in treating cases of Kaposi's sarcoma it was necessary to filter the ray. They had had excellent results in cases of this kind. One case which had cleared up was presented to the Academy. They had not been successful with the unfiltered roentgen-ray treatments.

#### CASE FOR DIAGNOSIS. Presented by DR. TRIMBLE.

The patient, a Russian, aged 50, presented over the shoulders, arms and back, small spots of pigmentation with associated slight necrosis, simulating an old acne. On the leg, below the knee joint there was a considerable area of papillomatous and pustular eruption resembling that after the ingestion of bromid. The eruption had been present for one and a half years. No satisfactory history of the ingestion of drugs was obtainable. The Wassermann test was negative.

#### DISCUSSION

DR. PAROUNAGIAN said that he had ascertained through the patient's interpreter that the patient had received a head injury for which he took medicine about four months ago. He considered the acnelike lesions on the trunk and the hypertrophic lesions on the lower extremities were very suggestive of bromoderma.

DR. LEVISEUR agreed with the diagnosis of bromid eruption and said that the urine should have been examined for bromid. It was a remarkable fact, the speaker said, that a bromid eruption might continue a long time after the medicine had been stopped.

DR. GILMOUR agreed with the diagnosis of bromid eruption. The patient told him that he had taken medicine which tasted salty both before and after the lesions appeared.

DR. ROTHWELL said that everybody who had questioned the man had obtained a different history. He said he had been told by the patient, repeatedly, that no medicine had been taken.

DR. WISE suggested that the history be ignored and that the diagnosis was bromid eruption.

#### DERMATITIS HERPETIFORMIS. Presented by DR. LAPOWSKI.

Mrs. T., aged 35, duration of condition, four weeks. When first seen the face, extremities, trunk and abdomen were covered with an erythematopapular eruption simulating syphilis. Even the classical localization of syphilis, the nasal folds, were occupied by weeping, slightly infiltrated papules. There were abrasions of the mucous membrane of the lips, cheeks, hard palate and tonsils. There was also intense itching. The Wassermann reaction was negative but the condition improved under intravenous injections of arsphenamin.

#### MYCOSIS FUNGOIDES. Presented by DR. LAPOWSKI.

B. H., aged 47; duration of condition, nine years. There was no history of former disease. The condition for which she was presented started on the thigh and arm and had been universal for the past four years. The patient was treated in the Massachusetts General Hospital for three years. She came to the Good Samaritan Dispensary one year ago with erythematous, slightly infiltrated patches, separated by islets of healthy skin. The eruption was scattered nearly over the whole body and the itching was very severe.



Under thirty injections of bichlorid of mercury, 15 drops of Fowler's solution, and four intravenous injections of neoarsphenamin the infiltration diminished to such an extent that the skin could be folded and the redness and itching were less pronounced.

#### LUPUS ERYTHEMATOSUS. Presented by DR. LAPOWSKI.

Miss R. H., aged 8, tenth child out of twelve; three children before the birth of this patient miscarried in early pregnancy, the rest were living. The patient's mother's Wassermann reaction was negative. The mother had no external symptoms of syphilis nor did she give any history of syphilis. During the second year of childhood the child had summer complaint and fever. The eruption for which she was presented was of four years' duration. It started on the neck and was treated for two years and disappeared and reappeared five months prior to presentation in the same localizations, namely, the right arm and forearm; and spread from the anterior surface of the humerus down to the distal ends of the fingers of the right hand. The eruption appeared in the form of annular patches with free centers, serpiginously arranged; consisting of from pinhead to millet-sized efflorescences slightly raised above the surface which either remained disseminated or formed a border covered with scales which could be easily scraped off, leaving denuded points, not bleeding. On the dorsal aspect of the right hand there were no lesions but a uniform redness and slightly scaly condition.

#### DISCUSSION

DR. TRIMBLE said that he could not make a positive diagnosis. The lesions on the forearms he thought were very suggestive of a parasitic dermatitis.

DR. LEVISEUR thought that the buccal lesions suggested lupus erythematosus but he questioned if the eruption on the forearms were connected in any way with the mouth lesions.

DR. LAPOWSKI said that the case had been previously presented and accepted as lupus erythematosus. He would like to have a diagnosis made of the forearm eruption which had been present for four years.

DR. TRIMBLE said that he had not observed the lesions in the mouth but that he always hesitated to make a diagnosis of such diseases as lichen planus and lupus erythematosus when occurring on the buccal mucosa without having skin lesions as confirmation. The fact that the finger nails were involved, together with the skin eruption, was very suggestive of a parasitic affection. He suggested that the best way to establish a diagnosis was by bacteriologic investigation.

#### SCLEREMA NEONATORUM SYPHILITICA. Presented by DR. LAPOWSKI.

Baby K. came to the dispensary, Nov. 8, 1918, with palmar and plantar squamous papular syphilis and sclerema of both buttocks. Under rubbings and bichlorid baths the papules disappeared and the sclerema was only partly noticeable.

#### ERYTHEMA TOXICUM BULLOSUM. Presented by DR. LAPOWSKI.

Mrs. G. had been under observation since 1911. She was presented to the Section in 1912 at which time she had an outbreak over the body under the picture of lupus erythematosus. There were red scaly spots lasting for months without any change. The spots would disappear suddenly and reappear. She was presented to the Section at that time as lupus erythematosus of a peculiar type and Dr. Pollitzer and Dr. Trimble suggested the diagnosis of a clinical

type of erythema multiforme. Several months later she was taken ill with chills and fever and the patches were covered with bullae. Her temperature was 103 F., and she had headache and her tongue was coated for three days; then the chills would stop and the lesions would disappear only to be followed by another relapse. During the past six years she had had from ten to twelve relapses without any apparent reason. The lesions, however, never entirely disappeared. Her last attack was six weeks prior to the last presentation. She was confined to bed with chills; the lips were swollen, temperature was 104 F., and the whole body was covered with erythematous patches. She could not lie on her back as it was covered with bullae. Albumen and sugar were found in the urine. The eruption lasted several weeks and then cleared up, only one mark remaining and that was a red spot between the shoulders. Around this spot there was an edematous area. In 1914 the patient was presented to the Section for the second time and every one agreed the speaker said, that the condition was lupus erythematosus. He had watched the case for a long time and presented it as a bullous erythema in combination with albumin and sugar.

## DISCUSSION

DR. WISE said that cases of this kind were exceedingly difficult to diagnose. He did not, however, think that the case was unique. Examples of erythema multiforme, resembling lupus erythematosus, were not uncommon and in some instances it was practically impossible to differentiate between the two affections.

# Review of Dermatology and Syphilis

Under the direction of FRED WISE, M.D., New York

Assisted by

PAUL E. BECHET, M.D., New York	OSCAR L. LEVIN, M.D., New York
W. H. GUY, M.D., Pittsburgh	M. L. RAVITCH, M.D., Louisville
ROBERT C. JAMIESON, M.D., Detroit	ISADORE ROSEN, M.D., New York
M. F. LAUTMAN, M.D., Hot Springs	VICENTE PARDO, M.D., Havana, Cuba
A. W. STILLIANS, M.D., Chicago	C. C. TOMLINSON, M.D., Omaha
J. FRANK WAUGH, M.D., Chicago	

LANCET

(July 13, 1918, 195, No. 2)

Abstracted by J. FRANK WAUGH, M.D.

## THE LOSS OF COMPLEMENTARY POWER IN KEPT SERUM. J. S. DOUGLAS and J. W. BIGGER, p. 44.

This article should be of special interest to serologists. The method of determining the rate of decrease in complementing power of kept guinea-pig serum is described in detail. Efforts were made to determine whether or not the loss of complementing power is a regular phenomenon obeying definite physico-chemical laws. A technic was elaborated whereby the hemolytic complement content of a kept serum can be ascertained with some exactness from day to day. The conclusions of the writers were as follows:

1. A satisfactory method of estimating decreases in the complementing powers of serums over considerable periods of time has been devised.
2. Whilst kept normal guinea-pig serum loses its complementing power more rapidly in the early stages than the later, and at 20 C. than at 9 C., yet it retains its activity for a considerably longer time than has generally been conceded.
3. The loss of complementing power of such serum is perfectly regular and can be expressed by a formula which is given.

(*Ibidem*, Aug. 10, 1918, 195, No. 6)

## DISAPPOINTMENT OF VACCINATION THERAPY. H. G. ADAMSON, p. 172.

The relative value of vaccination as a prophylactic measure and as a curative agent are discussed. Disappointment in the therapeutic results of vaccine therapy in some of the common cutaneous disorders has led to rather severe criticism of this method of treatment.

The value of prophylactic vaccination has long been established but there is a great difference of opinion among those who have used vaccine as a curative agent and given it a prolonged trial.

In his defense of prophylactic vaccination the writer quotes Sir Almroth Wright as follows: Prophylactic employment of vaccines is not only from the theoretical point of view the best of all methods of employing vaccines but it is the method which gives, in practice, the maximum advantage.

The question of immunity is discussed in detail. The value of the opsonic index as a guide for dosage is questioned. Staphylococcus infections and lupus vulgaris are two conditions in which vaccine therapy at one time seemed likely to be of great assistance.

Experience extending over a dozen years has shown that this early promise has not been fulfilled. The writer states that he rarely met with good results in cases treated by himself or those referred to expert bacteriologists.

The author states that striking cures are indeed reported, and it must be admitted that good results are occasionally observed with vaccine treatment in the less chronic forms of staphylococcal infections of the skin, in recent furunculosis and in pustular acne which is not of long standing; but such results are by no means constant and in the majority of cases there will be but temporary improvement, if really any improvement that cannot be attributed to other treatment carried out at the same time or to accidental coincidence with the natural course of events. In some cases the eruption will become worse, and again it is certainly correct to say that most dermatologists will not now recommend tuberculin treatment as a likely cure for lupus vulgaris and that many will avoid it as being fraught with danger. In the author's experience in every case of lupus treated by tuberculin, the disease has subsequently become less controllable than before the treatment was used.

Vaccine treatment is justified in certain cases where other treatments have failed. But the indiscriminate use of vaccines is deprecated because we are not in a position to know when we may do good and when we may do harm. "As we have no means of estimating its effect in a person whose reactivity has been altered, perhaps profoundly altered, as a result of previous microbic infection."

*(Ibidem, Aug. 17, 1918, 195, No. 7)*

#### NOTES ON A RECENT EPIDEMIC OF SMALLPOX IN THE FIELD.

G. H. MEAD, p. 206.

A number of case reports are given, illustrating the different types of the disease. The early appearance of inflammatory edema of the face is a sign of grave prognosis. A prodromal or initial rash is usually scarlatinial or macular; when purpuric, it does not necessarily indicate that a hemorrhagic type of smallpox will follow. Serious complications such as corneal ulcers, iritis and otitis media were avoided by exercising great care in cleansing the eyes, nose and mouth of all noxious matter.

*(Ibidem, Sept. 14, 1918, 195, No. 11)*

#### THE PREVENTION AND ARREST OF LICE-BORNE DISEASES BY NEW METHODS OF DISINFECTION. WM. HUNTER, p. 377.

A report on the disinfecting of clothing on a large scale. Two new types of disinfectors are described: the "barrel disinfecter" and the "railway van disinfecter," in both of which steam is utilized as the disinfecting agent. A very practical and efficient method which should be of special interest to dermatologists engaged in army work.

*(Ibidem, Sept. 21, 1918, 195, No. 12)*

#### THE PREVENTION AND ARREST OF LICE-BORNE DISEASES BY NEW METHODS OF INFECTION. WM. HUNTER, p. 377.

(Article concluded.)



(*Ibidem*, Oct. 19, 1918, 195, No. 16)

ABSENCE OF SENSATION. E. D. ROBERTS, p. 545.

A report of a remarkable case showing entire absence of superficial and deep tactile sense over the whole skin surface and mucous membranes, with complete absence of sense of same and thermal sensation. Muscular sense and sense of position also absent. The sense of taste was completely absent and the sense of smell practically nonexistent. Reflexes were normal. The probable diagnosis was syringomyelia combined with hysteria.

(*Ibidem*, Oct. 26, 1918, 195, No. 17)

THE STANDARDIZATION OF THE WASSERMANN REACTION.

W. D'ESTE EMERY, p. 547.

A detailed description of the method is given; the article is quite long and not suitable for abstracting. The writer's conclusions are as follows:

1. That it is possible to prepare a standard Wassermann unit by the use of antigen prepared in a definite manner. I suggest that until further experience is obtained the adsorption of two clear units of complement tested in the manner described, shall be regarded as a standard unit, this being found to give good clinical results.

2. That antigen prepared in the manner described remains remarkably constant, and that if several specimens are prepared from different batches of similar ingredients, they will give constant results.

3. That syphilitic serums, prepared aseptically and free from foreign materials, remain constant for at least a month, and probably for much longer, at the same temperature.

4. That the use of such serums affords an easy means by which any experimenter can obtain comparable results from time to time.

5. That the use of such serums, accurately standardized, will enable workers by any technic to obtain results which are comparable.

6. I suggest that the Wassermann reaction should be reported in terms of Wassermann units, either those which I have described or some modification thereof, the figures given by each laboratory being the same whatever the technic, and such as will indicate the number of times the serum is stronger than the weakest serum which will just give definite proof that the patient has syphilis.

(*Ibidem*, Nov. 2, 1918, 195, No. 18)

SPIROCHETOSIS ICTEROHEMORRHAGICA. BERTRAND DAWSON.

An admirable article with many illustrations and bibliography. The organism is described in detail including cultural and agglutination characteristics. The disease usually has a sudden onset with temperature of 102 F. or higher. During the succeeding three or four days the following symptoms occur in most cases: Herpes labialis, frequently hemorrhagic, bleeding from the nose, stomach, lungs, bowel or in the skin, as a purpuric rash which frequently precedes icterus, appearing on the fourth or fifth day, and which may be severe. Early weakness and prostration are characteristic of the disease. Severe headache, muscular pains, twitching and convulsions may precede or accompany the coma of fatal cases.

In making a diagnosis stress is placed on finding the spirochete in the blood, by inoculating guinea-pigs and finding the spirochetes in different tissues; they are also present in the urine a few days after the onset of the disease.

(*Ibidem*, Nov. 16, 1918, 195, No. 20)

A ROUTINE TREATMENT FOR SEPTIC SORES AND NILE BOILS.  
H. WARREN CROWE, p. 667.

The term septic sores is used in preference to tropical ulcer which should be limited to that condition associated with Leishmann Donovan bodies, veldt sore, barcoo rot, and I. C. T. (an army term signifying inflammation of connective tissue).

Reference is made to an article by C. J. Martin in which he claims that staphylococci were found in most of the cases seen by him when on the Sinai Peninsula Campaign.

Captain Craig, R. A. M. C., in the same locality found true diphtheria bacilli in 25 per cent. of sores and noticed diphtheritic sequelae to follow in some cases.

The writer states that he found diphtherialike organisms in about 5 per cent. of all sores examined, these were deeper than the usual ulcers and covered with a tough, blackened, dry membrane. A streptococcus was the primary etiologic factor and the diphtheroid bacillus a secondary infection. Streptococci were cultivated in pure cultures from unopened vesicles while staphylococci also were usually found in open lesions.

A detailed description of Nile boils is given, with the conclusion that they are different both clinically and etiologically from boils as seen in temperate regions. The writer is inclined to believe that a white staphylococcus allied to the *S. epidermidis albus* of the skin is the primary cause of the disorder.

A mixed staphylococcus and streptococcus vaccine was used in about 600 cases with gratifying results, the dosage was one million bacteria, two injections being given each week. The technic of preparing the vaccine is given. No special local treatment is recommended. Surgical measures should be carried out when indicated.

Summary is as follows: A vaccine prepared from a large number of strains of streptococci isolated from septic sores, combined with a similar series of peculiar staphylococci isolated from Nile boils, when given in frequent small doses, in conjunction with certain surgical measures of which the most important is the early incision of boils, is of great assistance in the cure of these diseases. Increasing the dose of vaccine on the scale described after cure is complete, prevents relapse.

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JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

(Nov. 16, 1918, 71, No. 20)

Abstracted by OSCAR L. LEVIN, M.D.

SCABIES IN MILITARY AND CIVIL LIFE. FRANK CROZER KNOWLES,  
p. 1657.

Knowles asserts that scabies is a greater problem in military than in civil life because of its greater frequency and severity. Scabies in military life differs from that in civil life in the comparative freedom of the hands and the more marked involvement of the penis. Complications are also more numerous and more severe.

THE JOURNAL OF CUTANEOUS DISEASES  
INTERSTATE MEDICAL JOURNAL

(May, 1918, 25, No. 5)

Abstracted by OSCAR L. LEVIN, M.D.

CUTIS VERTICIS GYRATA. REPORT OF A CASE. FRED WISE and  
OSCAR L. LEVIN.

This case is the first example of cutis verticis gyrata to be recorded on this continent. The anomaly consists of gyruslike elevations separated by furrows and suggests the appearance of the scalp of a bull-dog. The patient was a male adult who was under treatment for syphilis, but the scalp condition bore no relationship to the infection and it was evident that an inflammatory process was entirely absent, supporting Vörner's views.

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UROLOGIC AND CUTANEOUS REVIEW

(November, 1918, 22, No. 11)

Abstracted by OSCAR L. LEVIN, M.D.

DIAGNOSIS AND TREATMENT OF SYPHILITIC AFFECTIONS OF  
THE ACOUSTIC NERVE, WITH SPECIAL REFERENCE TO  
THE USE OF SALVARSAN. GEORGE E. DAVIS, p. 628.

The writer in this instructive paper states that it is possible previous to the appearance of general symptoms of syphilis to make an early diagnosis by means of careful functional tests of the ear. The following functional hearing tests may be regarded as strongly diagnostic of early syphilis:

1. Bone conduction definitely shortened.
2. Rinné positive.
3. Air conduction: low notes, relatively normal; high notes, definitely lowered.
4. Bilateral affection.

He shows in a review of the literature that the occurrence of focal reactions in the acoustic, facial, or other cranial nerves during the course of salvarsan (arsphenamin) therapy in syphilitic cases, is no incrimination of the remedy directly, but rather an indictment of the technic of administration. Either the dose has not been sufficiently large, else not repeated sufficiently often and continued sufficiently long to completely destroy all the spirochetes, particularly those in avascular foci—as nerve tissue. The safety and efficiency of salvarsan (arsphenamin) in curing syphilitic lesions of the acoustic nerve depend on its timely and intelligent administration.

SUNLIGHT AND PIGMENTATION. FRANK B. SOLGIER, p. 634.

The writer claims that the main function of the pigment of the skin is to serve as a protection against the destructive effect of the sun's chemical rays. All other functions are of a secondary nature. As a result of his study of the pigment in animals, he concludes that certain pigment cells serve as a protection against the influence of light; others, chromatophores, are able to alter the coloring and enable the organism to adapt itself to its surroundings.

The origin of the pigment in the skin is not yet known. The phenomenon of albinism offers a problem, the final solution of which is not yet given, though a number of possibilities show that we may reach the bottom through comparative biologic investigations and study of the chemical processes.

PRE-EPITHELIOMATOUS CIRCUMSCRIBED MELANOSIS IN XERODERMA PIGMENTOSUM. CARLO VIGNOLO-LUTATI, p. 640.

The writer cites two cases of xeroderma pigmentosum in which he observed the development of pigmented areas which subsequently developed epitheliomas. He regards this condition as an anomaly of development—a nevus in the broad sense of the word. He states further that the epithelioma does not represent a stage in the course of xeroderma pigmentosum but a complication equivalent to an epitheliomatous metamorphosis which a nevus can undergo.

LUPUS VULGARIS. CARLO VIGNOLO-LUTATI, p. 688.

A report of the occurrence of lupus vulgaris on the neck and the upper part of the chest-areas not protected by the clothing.

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## MEDICAL JOURNAL OF AUSTRALIA

(Oct. 12, 1918, 2, No. 15)

Abstracted by OSCAR L. LEVIN, M.D.

FRAMBOESIFORM SYPHILID. W. McMURRAY, p. 306.

Report of a case.

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## MEDICAL TIMES

(October, 1918, 46, No. 10)

Abstracted by OSCAR L. LEVIN, M.D.

SOME ASPECTS OF SYPHILIS. MORRIS H. FRANTZ, p. 251.

The writer emphasizes the following points: A negative Wassermann reaction of the blood serum does not mean that the patient is free from syphilis; when the Wassermann reaction of the blood is negative the spinal fluid should be examined in all cases clinically syphilitic; antisyphilitic treatment should consist of courses of mixed treatment before and after the administration of salvarsan (arsphenamin).

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## NEW YORK STATE JOURNAL OF MEDICINE

(November, 1918, 16, No. 11)

Abstracted by OSCAR L. LEVIN, M.D.

THE PROBLEM OF VENEREAL DISEASE CONTROL. A. N. THOMSON, p. 451.

The problem of venereal disease control in the Army is to all intents and purposes the same as in civilian life. This in brief, may be divided into education first, advice and diagnosis second, treatment third, and last, follow-up in every way.



## MEDICAL RECORD

*(March 9, 1918, 93, No. 10)*

Abstracted by C. C. TOMLINSON, M.D.

## THE PROBLEM OF SYPHILIS. FORREST M. HARRISON, p. 402.

The author reviews the different phases of the syphilitic problem from the standpoint of the medical profession and as regards its economic and sociologic importance. Regarding the matter of control and prevention he considers therapeutic attack the only efficient means.

Early diagnosis, intensive and prolonged treatment with provision for restriction with hospital care during contagious stages are the important factors. Much can be gained through education of the public and bringing the young men to realize that the continent life and good health are not incompatibles.

*(Ibidem, March 23, 1918, 93, No. 12)*

## A STUDY OF GENITAL AND PROGENITAL PAPILLOMATA AND EXCRESCENCES. NOAH E. ARONSTAM, p. 495.

Genital and progenital papillomas are classified as follows: (a) papilloma simplex; (b) papilloma acuminatum; (c) papilloma giganticum; (d) papilloma latum; (e) papilloma molle; (f) papilloma maligniforme, and (g) a type *sui generis*-papilloma urethrale. Points of etiology, diagnosis and treatment are given for each type.

*(Ibidem, June 29, 1918, 93, No. 26)*

## MELANODERMA ARSENICALE PRODUCED BY CACODYLATE OF IRON. DOUGLASS W. MONTGOMERY, p. 1121.

The author reports the case of a man, aged 70, who had a profound anemia, to whom he gave nineteen doses of the cacodylate of iron, 1 grain each, over a period of twenty-five days.

Following the last dose he presented a reticulated pigmentation of the skin over the lower part of the abdomen and on the forehead and temples. This slowly cleared after stopping the drug and later a similar course of treatment reproduced the pigmentation which again cleared after stopping the treatment.

*(Ibidem, July 13, 1918, 94, No. 2)*

## THE RESULTS AND INTERPRETATION OF THE WASSERMANN TEST. CLARENCE A. JOHNSON, p. 59.

This report is based on the author's experience with 6,000 Wassermann tests in which he used the antisheep hemolytic system and a cholesterinized alcoholic extract of human heart for antigen. His percentage of positive reactions in the various stages of syphilis were: Primary, 89; secondary, 96.1; tertiary, 87.4, and congenital, 82.2.

Considerable stress is placed on the variation in the amount of complement inhibiting substance from day to day which may account for varied reports from different laboratories when the specimens for examination are taken at different times. It is also of importance in determining the benefits of treatment by the Wassermann test as changes may be due to variation in the complement inhibiting substance other than those due to treatment. Negative serums contaminated with bacteria gave positive reactions after twelve hours' incubation. The provocative Wassermann is considered of utmost value as a diagnostic aid and also in determining a cure.

*(Ibidem, Sept. 14, 1918, 94, No. 11)*

VALUE OF THE WASSERMANN REACTION. ROBERT A. LAMBERT, MIRIAM OLMSTEAD and HAROLD C. STUART, p. 452.

In studying the results of the Wassermann test in comparison with changes due to syphilis as determined at necropsy, the authors have found them to coincide in a much higher percentage of cases at the Presbyterian Hospital than has been previously reported from a similar study at the Bellevue Hospital. Of twenty-three cases with positive anatomic changes of syphilis, 85.7 per cent. gave positive Wassermann reactions. Of 188 cases with negative anatomic findings, none gave a positive Wassermann reaction.

*(Ibidem, Sept. 21, 1918, 94, No. 12)*

TREATMENT OF INOPERABLE CANCER OF THE BREAST BY CHEMICAL EXTIRPATION. CHARLES WILLIAM STROBELL, p. 487.

In reporting his results from the use of chemicals in the removal of cancer of the breast, Strobell makes the following claims: Its use is painless; lower axillary regional metastases can be successfully removed; it is safely used at any age or stage; it is equally applicable to the type commonly spoken of as inoperable; local recurrence is far less frequent than after the knife; the resulting operative field is more free of scars and skin tension; no mechanical dissemination; far less probability of inoculation metastasis. A number of case histories and photographs accompany the article.

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## NEW YORK MEDICAL JOURNAL

*(April 20, 1918, 107, No. 16)*

Abstracted by C. C. TOMLINSON, M.D.

SYPHILIS IN RELATION TO MENTAL DISEASE. WILLIAM C. SANDY, p. 734.

Wassermann tests made on all patients admitted to the Connecticut State Hospital for the insane during the past year showed 20 per cent. positive. Paresis is by far the most common type of psychosis due to syphilis. The clinical differentiation of cerebral syphilis and paresis is difficult. Hereditary syphilis is important from a nervous and mental standpoint. Hocksinger is quoted as having found 43 per cent. of 208 children of syphilitic parents to have some disease of the nervous system. The author reviews the clinical symptoms of disease of the nervous system and urges intensive treatment of all cases of syphilis.

*(Ibidem, April 27, 1918, 107, No. 17)*

THE TREND OF MODERN DERMATOLOGICAL RESEARCH AND ITS BEARING ON GENERAL MEDICINE. MOSES SCHOLTZ, M.D.

This article is summarized by the author as follows: 1. Dermatology after having gone through descriptive and pathologic periods of development is now going through the final stage of its growth which can be rightly termed a biologic period.

2. A complete recording of coexistent skin lesions in medical cases is necessary for a better knowledge of their possible interdependence and a better understanding of systemic dermatoses.

3. The modern dermatological research has not sustained and has largely discarded old conceptions of diatheses and of nervous reflex in dermatoses and has introduced a new concept of cutaneous syndromes for various underlying pathologic systemic conditions, such as hyperthyroid or hypothyroid, diabetic, rheumatic, and leukemic syndromes.

4. The service of dermatology to general medicine is rendered largely through a symptomatic significance of skin disorders as a surface indicator of internal conditions. This service can be measured best by the number of cutaneous syndromes which dermatology may develop and establish for clinical use, and will depend entirely on the extent of a mutual cooperation between internist and dermatologist.

THE VALUE OF CHEMICAL TESTS ON THE SERUMS AND SPINAL FLUIDS OF SYPHILITICS. With special reference to the Gordon Mercuric Chlorid Test. BORIS MANN and ANNA I. VAN SAUN, p. 783.

The authors reviews the reports on the different chemical tests and tabulate their findings in 248 cases checked up by the Wassermann tests. Their conclusions follow:

1. Most of the chemical tests are nonspecific for syphilis. In general they show only a pathologic state.

2. In our hands the mercuric chlorid test with the blood serum of suspected syphilitics failed to correspond with the results obtained with the Wassermann test in more than half of the 248 specimens studied and thus lacks diagnostic value.

3. With spinal fluids the mercuric chlorid test indicates the presence of proteins, but beyond this it cannot be considered specific.

*(Ibidem, May 25, 1918, 107, No. 21)*

STANDARD METHODS IN DIAGNOSIS AND TREATMENT OF VENEREAL DISEASES IN PUBLIC DISPENSARIES. HAVEN EMERSON, p. 968.

The author reviews the regulations taken from the sanitary code of New York which have been made in an effort to standardize the treatment of venereal disease in dispensaries. Also regulations tending to bring to a standard the work of laboratories.

Important in this connection is the excellent state law which forbids advertisements concerning a venereal disease other than those issued by a licensed hospital, dispensary, or department of health.

*(Ibidem, June 15, 1918, 107, No. 24)*

PREPARATION OF SOLUTIONS OF SALVARSAN AND ARSENO-BENZOL FOR INTRAVENOUS USE. HERMAN GOODMAN, p. 1122.

The author gives a detailed description of the technic of preparation and injection of salvarsan (arsphenamin) solution, pointing out the different possible errors which may make trouble.

*(Ibidem, June 22, 1918, 107, No. 25)*

THE RELATION BETWEEN LUPUS ERYTHEMATOSUS AND TUBERCULOSIS. FRED WISE, p. 1164.

Wise discusses the results of work done by different contributors to the subject and reviews his own observations. While clinching evidence is still lacking, recent investigations, notably inoculation experiments, would tend to

prove the tuberculous nature of the disease. Important adverse evidence is the histologic picture which is not that of a tuberculosis.

DIAGNOSIS AND TREATMENT OF ANTHRAX. NATHAN SCHWARTZ, p. 1171.

This report is based on a study of sixty-eight cases of anthrax in the state of New York and shows the importance of early diagnosis and efficient therapeutic measures. In Endicott, where there is located a large tannery, there were two deaths in twenty-four cases. In New York there were seventeen deaths in twenty-five cases.

The difference in mortality is explained in that better facilities for diagnosis and proper treatment are maintained at Endicott. Points to be remembered are: occupation of patient; exposure to infection; character of lesion, and location of lesion. Best results in treatment are obtained by wide excision or cauterization of the lesion and the use of Eichhorn's serum.

A PLAN FOR THE PREVENTION OF VENEREAL DISEASE IN NEW YORK STATE. E. H. MARSH, p. 1178.

The plan involves instruction of the general public through leaflets to be given diseased persons; by circulars of information on the causes and results of these diseases; by lectures in factories and department stores, and by improved methods of treatment and standardization of dispensaries.

*(Ibidem, July 20, 1918, 108, No. 3)*

SYPHILITIC JOINTS. PERCY WILLARD ROBERTS.

Attention is called to the fact that many cases of joint disease due to congenital syphilis are treated as tuberculous. A careful examination for dental anomalies will often give a clue to the correct diagnosis. A negative Wassermann test is not sufficient evidence for the exclusion of syphilis.

*(Ibidem, Aug. 3, 1918, 108, No. 5)*

OPHTHALMIC CHANGES IN TABES AND PARESIS. I. H. WECHSLER, p. 181.

From the standpoint of pathology, all syphilitic processes are of the same character and differ only in degree and in the structure involved. Primarily inflammatory, degeneration occurs only secondarily.

The author describes the different ophthalmic changes, their rate of occurrence, diagnosis and pathology. He gives special attention to the pathology and concludes that there is no valid reason for calling a protean clinical picture cerebrospinal syphilis. Instead he uses the term interstitial or diffuse neurosyphilis.

*(Ibidem, Aug. 17, 1918, 108, No. 7)*

CONGENITAL SYPHILIS AND THE DOCTOR. J. M. WALLFIELD, p. 277.

Wallfield reviews the various symptoms of congenital syphilis and their importance as diagnostic aids. A number of case histories are given. He emphasizes the obligation of the obstetrician in making a careful diagnosis at an early stage and believes the public should be instructed through the general press.

*(Ibidem, Aug. 24, 1918, 108, No. 8)*

THE PROTEIN TREATMENT OF PSORIASIS. ELEANOR VAN NESS VAN ALSTYNE, p. 326.

The author in a previous report gives her technic and early results in the use of protein taken from alfalfa and millet-seed. The method of treat-



ment is based on attempts to connect faulty metabolism by stimulating the organism to increased protein resistance through repeated hypodermic injection of a foreign protein.

This article embodies the result of further work in which most favorable results have been obtained. A number of case histories and photographs illustrate her success with this method of treatment.

*(Ibidem, Sept. 21, 1918, 108, No. 12)*

THE TECHNIC OF INTRAVENOUS MEDICATION. FERDINAND HERB, p. 498.

The correct pressure within the vein is considered by the author as essential to successful venipuncture. He has accomplished this by the use of his sphygmomanometer, and much prefers it to the rubber tube.

*(Ibidem, Sept. 28, 1918, 108, No. 13)*

SYPHILIS OF THE STOMACH, WITH REPORT OF CASE. ALBERT F. R. ANDRESEN, p. 544.

Of 1,000 patients with gastro-intestinal disturbances 70 per cent. had strongly positive Wassermann reactions. Of these 70 per cent., 26 per cent. had demonstrable lesions of the gastro-intestinal tract. The author describes the pathology, diagnosis and treatment of this condition.

## AMERICAN JOURNAL OF SYPHILIS

*(July, 1918, 2, No. 3)*

Abstracted by C. C. TOMLINSON, M.D.

THE NEW PATHOLOGY OF SYPHILIS. ALDRED SCOTT WARTHIN, p. 425.

Warthin's report is based on a study of 750 necropsies made over a ten year period in which he found evidence of syphilis in 40 per cent. of the cases. A similar study made at Bellevue Hospital on 4,880 necropsies showed 6.5 per cent. with anatomic evidence of syphilis. The striking difference is explained entirely by the different pathologic criteria employed as evidence.

This article reviews in detail the pathologic changes in the different organs as revealed by microscopic findings and the nature of the lesion is proven by the demonstration of the spirochete in all the different degrees of inflammatory changes. A number of clinical records and photomicrographs are given.

The author's summary follows:

1. The gumma is not the essential typical lesion of old or latent syphilis. It is a relatively rare formation; and the great majority of cases of syphilis run their course without the formation of gummatous granulomas.

2. The new pathology of syphilis is based on the demonstration that the essential tissue-lesion of either late or latent syphilis is an irritative or inflammatory process, usually mild in degree, characterized by lymphocytic and plasma-cell infiltrations in the stroma, particularly about the blood vessels and lymphatics, slight tissue proliferation, eventually fibrosis, and atrophy or degeneration of the parenchyma.

3. These mild inflammatory reactions are due to the localizations in the tissues of relatively avirulent spirochetes.

4. Syphilitic inflammations of this type occur in all tissues and organs; but are most easily recognized in the nervous system, heart, aorta, pancreas, adrenals and testes. They are, however, usually widely distributed throughout the entire body, although in individual cases showing especial predilection for certain organs or tissues. No explanation of these system, organ, or tissue predilections is yet evident; neither is there any explanation of those cases in which all organs and tissues show the most severe degree of these lesions.

5. The syphilitic is a spirochete carrier. In this respect, the *Spirochete pallida* is to be classed with the trypanosome, the malarial organisms, lepra and tubercle bacilli, streptococcus, etc.

6. Syphilis tends to become a mild process; but at any time the partnership between the body and the spirochete may become disturbed, and tissue susceptibility or virulence of the spirochete becomes increased so that the disease again appears above the clinical horizon.

7. Immunity in syphilis depends on the carrying of the spirochete. A price is paid for this immunity in the form of the defensive inflammatory lesions previously described

8. The disastrous effects of syphilitic infection usually require a period of years for their development. The slowly progressive lesions, fibrosis and atrophy, may at least manifest themselves in paresis, tabes, myocarditis, aortitis, aneurysm, diabetes, hepatitis, or in many other forms of tissue damage and functional disturbance. Lesions of the viscera are much more common and important clinically than those of the central nervous system, but they are rarely recognized as syphilitic by the clinician. Syphilitic death occurs most frequently in men between the ages of 40 and 60. Chronic myocarditis is the most common form of death due to syphilis.

9. The pathologic diagnosis of syphilis is essentially microscopic. Only in a relatively small number of cases are the gross lesions (tabes, gumma, aortitis, etc.) typical to be recognized by the naked eye. A negative diagnosis of syphilis cannot be given with any certainty without a routine microscopic examination of all organs and tissues, but particularly of the left ventricle wall, the aorta, both its arch and abdominal portion, the testes, pancreas and adrenals.

DEGENERATIVE CHOREA (HUNTINGTON'S TYPE) WITH THE  
SEROLOGY OF GENERAL PARESIS. Report of Two Cases; One  
with Necropsy. LAWSON GENTRY LOWREY, p. 453.

Neither of the cases reported had a family history of chorea associated with dementia coming on in adult life. Clinically they resembled Huntington's chorea. A number of figures supplement the article and illustrate the anatomic and microscopic changes in the brain.

A REMARKABLE CASE OF OSTEOPOROSIS IN A NEGRO. R. W.  
SHUFELDT, p. 462.

The head reported in this article was located in an anatomic laboratory and no history was obtainable other than it was the head of a colored man, aged 24, who had died of tertiary syphilis.

The destruction of bone was very extensive, the external table of the skull and diploic tissue were gone over practically the entire vault of the cranium and the vitreous table had been rendered very thin. The bones of the facial region were also largely destroyed. The occipital and temporal regions were fairly sound.

SYPHILIS OF THE EPIDIDYMISS WITHOUT INVOLVEMENT OF THE TESTICLE. Report of Case. H. LISSER and FRANK HINMAN, p. 465.

The recognition of a pure case of syphilis of the epididymis prompted the author to review the literature on this subject which he found scant. In addition to the report of a case the history of this condition and its differential diagnosis are given.

The conclusions of the author are:

1. Unquestionably a condition exists in which the epididymis is affected by syphilis without involvement of the testicle.
2. Apparently this condition is quite uncommon, though probably it is often unrecognized.
3. There is a widespread misconception prevailing—namely, that syphilis only attacks the epididymis secondary to syphilis of the testicle.
4. A case is recorded which is an excellent illustration of a pure syphilis of the epididymis, without involvement of the testicle.

SYPHILIS OF THE STOMACH; RADIOGRAMS OF A CASE. SINCLAIR TOUSEY, p. 471.

Roentgenograms and report of a case of syphilis of the stomach with remarks on its differentiation from cancer and its treatment.

MENTAL DISTURBANCES AND SYPHILIS. LEWIS M. GAINES, p. 474.

Mental disturbances for practical purposes may be classified into those due to syphilis and those not due to syphilis. Their detection may be made through clinical evidence or laboratory examinations. In the absence of clinical evidence with a negative Wassermann test of the blood, syphilis is not to be ruled out and is often proved the etiologic factor through examination of the spinal fluid.

Neurosyphilis is best classified anatomically and into three divisions: (1) meningeal; (2) vascular, and (3) parenchymatous. Two types of lesions are recognized: (1) exudative, and (2) degenerative. The former responds readily to treatment while the latter does not.

There is no means of predicting the amount of good to come from treatment and all cases should be treated intensively. The author's conclusions are:

1. Syphilis may cause practically any type of mental disturbance. The old idea that a case of paresis must possess delusions of grandeur can no longer be entertained. Clinical symptoms and laboratory findings are the best tests to be applied in almost all cases of mental disorder.
2. In mental cases with evidence of syphilitic infections, probably all of them become impaired as the result of syphilis. There may be contributing other causes, but syphilis is the efficient cause.
3. Having established syphilis as the cause of a given case of mental disturbance, a gross injustice is perpetrated on the patient and his family by consigning him to paretic hopelessness. Rather, he should be thought of as a case of cerebral syphilis who may be benefited by intensive treatment and such treatment should be persistently continued as long as there is any possibility of improvement. Such patients have apparently recovered after many months of such constant efforts in their behalf.

## VITILIGO SYPHILITICA. M. L. RAVITCH and SOL. A. STEINBERG, p. 479.

The authors discuss the classification of the different types of vitiligo, their etiology, mode of onset and development and their histologic changes. There is no doubt that syphilis is the cause of certain cases of vitiligo but not of all cases.

## ANTENATAL SYPHILIS. Suggested Action of the Chorionic Ferments. AMAND J. ROUTH, p. 484.

The author reviews the problem, offered by different known facts, concerning syphilis in the pregnant woman and the child and advances the theory that the chorionic ferment may play an important part in protecting both. These ferments may break up the spirochete into granules which may remain inactive for short or long periods of time. The problems under consideration in the article are:

1. Why may a pregnant woman, who in due course either has a stillborn or a living syphilitic child, have a negative Wassermann reaction during her pregnancy, and for some weeks afterward?

2. Why are some syphilitic children negative at birth, and for some time afterward?

3. Why are spirochetes so rarely found in abortions, even though alternating between stillbirths in whose tissues they are swarming?

4. Colles' law.

The author's conclusions follow:

My suggestions seem to point to the following conclusions, some of which are scientific facts, whilst others are not proved, but I think, logical.

1. The "granules" are the result of the "spirillolysis" or breaking-up of the *Spirocheta pallida*.

2. The "granules" are infecting agents, being, in fact, spirochetes in the granule stage. They are able to develop into the mature spirochete in a suitable environment, or may become biologically inactive and remain latent for short or long periods.

3. Chorionic (syncytial) ferments are present at the point of terdigation of the fetal and maternal portions of the placenta. Their action is primarily trophoblastic to enable the delicate chorionic villi to penetrate the uterine mucosa and to open up maternal blood vessels, so that the ovum may find for itself a resting place with nutritive blood-spaces around it. As a result of the destructive action of the ferments on the maternal tissues so-called syncytiotoxins are formed, but appear to be at once neutralized by so-called syncytiolysins. If not thus neutralized, maternal and fetal toxemia may become present.

4. The chorionic ferments (or their derivatives) are suggested as being capable of exercising their destructive properties on the *Spirocheta pallida*, which may either be in the maternal intervillous or fetal intravillous tissues, both of which are in intimate relations with the syncytial cells of the villi whence the ferments arise

- 5 This destructive action of the chorionic ferments on the spirochete breaks it up into granules.

6. I further suggest that during pregnancy it is the continued action of the chorionic ferments on the granules which may render them latent and biologically inactive, and perhaps in a few cases may destroy them.

7. After the pregnancy, when the chorionic ferments cease to be present in the tissues of the mother and child, the granules, wherever they may be, may develop into mature spirochetes.



8. The success or failure of the chorionic ferments to protect the mother and child from spirochetal infection would depend on (a) the virulence of the infection, which tends to diminish, owing to the presence of more maternal antibodies, with each successive pregnancy, and (b) on the source of the infection. Infection is probably most difficult to arrest in a "mild transmission" or in a true maternal infection, where attempts at infection of the embryo would be constantly proceeding throughout the pregnancy. It is probably least severe and most easily countered by the ferments when the primary infection is paternal, for it may then be a single infection only, and probably not capable of repetition if the primary infection be arrested.

9. The Wassermann reaction of mother and child appears to be negative if infection has been by the spirochetes in their granule stage so long as the granules remain biologically inactive and the mature organism is absent.

CONCERNING THE COAGULA REACTION IN SYPHILIS. JOHN A. KOLMER and IKUZO TOYAMA, p. 505.

The article embodies a detailed description of the principle and method of preparing the reagents and of the technic of the coagula-reaction together with the results of different observers and a report of the authors' findings. The authors' conclusions follow:

1. The coagula reaction is based on the observation of Hirschfeld and Klinger that syphilitic serum inhibits or delays the formation of thrombin and consequently of coagulation, by an inactivating influence on cytozyme, one of the essential elements in thrombin formation.

2. The reaction has been found a highly delicate and constant characteristic of syphilis, although in our experience slightly less sensitive than the Wassermann reaction conducted with acceptable alcoholic extracts of heart muscle reinforced with cholesterin.

3. The coagula reaction is regarded as specific for syphilis, but further investigations with the serums of persons suffering with various other diseases are required before a definite statement is warranted.

4. The preparation of suitable reagents for the coagula test is at present too frequently disappointing to place the reaction on the basis of a practical routine test for syphilis; it is possible, however, that further experiences will simplify the technic and remove this objection.

5. The coagula reaction possesses considerable interest and importance in relation to the mechanism of several immunity reactions and particularly complement fixation by reason of the principles involved.

SYPHILIS IN DETROIT AS AN ECONOMIC AND SOCIAL FACTOR.

R. C. JAMIESON, p. 519.

Jamieson has compiled statistics on the prevalence of syphilis in the different state institutions in Michigan and estimates the annual expense to that state through this disease. He favors the segregation of prostitutes as a check to this evil.

Four hundred cases of syphilis in which the source of contagion was determined revealed the following:

Total cases—400,	Number	Percentage
Of friends' infections.....	101	25.25
Of prostitute infections.....	111	27.75
Of husband infections.....	107	26.75
Of wives infections.....	4	1
Of congenital infections.....	52	13
Of extragenital infections.....	25	6.25

It is interesting to note that 188 of 400 cases were innocent in the contraction of the disease.

ON SALVARSAN ICTERUS. K. I. SANES and MAX KAHN, p. 529.

A report of the findings in a carefully studied case of toxicity following salvarsan (arsphenamin) administration.

THE TOXICITY OF VARIOUS PREPARATIONS OF ARSPHENAMIN. JAMES C. SARGENT, p. 537.

The nature and cause of the different reactions due to administration of the several preparations of salvarsan (arsphenamin) were studied at the syphilis clinic of Marquette University and the following conclusions determined:

1. Gastro-intestinal reactions resulting from the administration of arsphenamin are largely the result of impurities in the drug.
2. Vaso parietic reactions resulting from the administration of arsphenamin are entirely the result of impurities in the drug.
3. Of the four preparations of arsphenamin commonly used in this country, the Philadelphia preparation "arsenobenzol" has the preference by being distinctly the least toxic.

ON THE USE OF AMERICAN-MADE SALVARSAN. H. SHERIDAN BAKETEL, p. 544.

Reactions following salvarsan (arsphenamin) injections are usually due to one of the following:

1. Concentration of solution.
2. Presence of partially digested food in the gastro-intestinal tract.
3. Imperfect cleansing of the alimentary canal.
4. The use of impure sodium hydroxid.
5. The use of imperfectly sterilized absorbent cotton.
6. The use of old distilled or imperfectly sterilized water.
7. Failure to neutralize the solution, thus injecting an acid solution.

Owing to the possibility of an acid in absorbent cotton, gauze is preferred as a filter for the solution. The author considers a 0.4 gm. dose repeated at from five to seven day intervals entirely adequate for intensive treatment. American made salvarsan (arsphenamin) is considered in every way the equal of the Ehrlich product.

INTRAVENOUS INJECTIONS OF SODIUM IODID IN MASSIVE DOSES IN OBSTINATE SYPHILIS. REPORT OF LARYNGEAL CASE RECEIVING 125 MASSIVE DOSES OF IODID, 54 SALVARSAN, AND MANY HUNDRED INTRAMUSCULAR MERCURY INJECTIONS. ROBERT C. HOWARD, p. 550.

The author's case did not respond to intensive treatment with salvarsan (arsphenamin) and mercury but was much improved by the intravenous use of a solution of sodium iodid. Failure to respond to the ordinary treatment is explained by the development of a salvarsan (arsphenamin) and mercury-fast type of spirochete. Improvement under the iodids was brought about through the action of the drug in dissolving the cellular infiltration in the larynx.

The author's conclusions are:

1. Sodium iodid intravenously is harmless, and undoubtedly superior to both the potassium and the sodium salt given by the mouth. It contains relatively more iodine than the potassium salt,

2. Sodium iodid can be given in much larger doses than the corresponding potassium salt and is not depressing to the heart muscle, as is the case with potassium iodid.

3. It is better tolerated intravenously than by mouth and can be given in larger doses. The treatment is administered daily.

4. Patients often prefer the intravenous mode of administration.

5. A solution of from 5 to 10 per cent. strength is correct and its injection painless.

6. No reaction appears until large doses are reached, and iodism is rare.

7. Intravenous dosage, 10 to 335 gr.

8. Chills started at 225 grains and have been reported by no other observer.

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## Original Communications

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### THE ROENTGEN-RAY TREATMENT OF TINEA TONSURANS

H. H. HAZEN, M.D.

Professor of Dermatology, Medical Departments of Georgetown  
and Howard Universities

WASHINGTON, D. C.

Ringworm of the scalp is a very common disease among children, the figures of the American Dermatological Association<sup>1</sup> showing that it constitutes over 3 per cent. of all dermatoses. My own figures<sup>2</sup> show that it is three times as common in negroes as in whites, and Howard Fox<sup>3</sup> agrees that it is more frequently met with in that race. Why the disease should spontaneously disappear at puberty is a question that has not been sufficiently studied. When we recall the changes that take place in the pilosebaceous structures at the time of adolescence, it is easy to feel that there may be a change in the sebaceous secretions that render the soil unfavorable for the further reproduction of the organism. It would be interesting to see if the continued administration of extracts of the interstitial glands of the testes would cure the disease in young boys.

The disease is markedly contagious; if one child in a family becomes affected it is usually but a few days before the other children show symptoms, and if the disease once starts in a home for children the majority of the inmates almost invariably develop the trouble inside of two months. In the vast majority of instances children thus affected are excluded from the schools, and where the disease is at all prevalent this may be one fairly prominent cause of illiteracy, as pointed out by MacKee and Remer.<sup>4</sup> Among intelligent people it is

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1. Pollitzer: J. Cutan. Dis. **32**:312, 1914.

2. Hazen: J. Cutan. Dis. **32**:705, 1914.

3. Fox: J. Cutan. Dis. **26**:67, 1908.

4. MacKee and Remer: Med. Rec., Aug. 7, 1915.



frequent to hear the children and mothers complain bitterly of the ostracism that a child with ringworm of the scalp suffers from its former playmates.

The clinical types of ringworm are well known; it is only necessary to mention that we have a localized or disseminated type due to a small spored endothrix, this being the commonest type, the well known kerion due to a large spored organism and frequently resulting in spontaneous cure as a result of the loss of hair from the affected follicles; the bald ringworm and the black dot ringworm which are not so well known and are frequently mistaken for alopecia areata. Excellent illustrations of these conditions can be found in Jackson and McMurtry's book on "Diseases of the Hair."<sup>5</sup>

The essential thing to remember about the pathology of the condition is that the organisms can be found not only in the hair follicles and in the sheaths of the hair, but in the majority of instances, depending on the variety of invading organisms, even in the interior of the hair shaft. This explains why it is so difficult to cure the condition with local antiseptics.

#### MEDICINAL TREATMENT

Every textbook mentions various favorite antiseptic lotions and ointments, and every experienced dermatologist knows that less than 1 per cent. of the ringworm cases can be cured by their use in less than three years. Croton oil has been advocated by some of our English friends,<sup>6</sup> the idea being to cause pustulation and discharge of the affected hairs. Ionization is theoretically possible, but my own work with it has been most discouraging. Vaccines have assuredly not proven a success.<sup>7</sup> Hand epilation is too slow, tedious, difficult and painful to be of value except where there is but one small beginning spot.

#### ROENTGEN-RAY TREATMENT

The proper use of the roentgen ray will cure 99 per cent. of the cases and will cause no harm if properly employed. The object of the roentgen ray is not to kill the organisms but to produce a defluvium; this removes the majority of the spores which are contained within the hairs, reduces the food supply of the parasite, and the remainder can be killed by antiparasitic remedies, inasmuch as such remedies can gain access to the follicles once they are empty.

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5. Jackson and McMurtry: *Disease of the Hair*, Lea & Febiger, Phila., 1912.

6. Aldersmith: *Ringworm*, London, 1898. Whitfield: *Skin Diseases and Their Treatment*, London, p. 69, 1907.

7. Strickler: *J. Cutan. Dis.* **33**:181, 1915.

## METHOD OF APPLICATION

There are, of course, two ways of employing the roentgen rays for this purpose: (1) the divided dose method, which has fortunately been relegated to the past, and (2) the massive dose or single dose method, the latter being universally employed by practically all competent men, both in America and abroad. This method was introduced by Sabouraud<sup>8</sup> in 1904, and was rendered possible by the discovery of the Sabouraud-Noiré pastille.

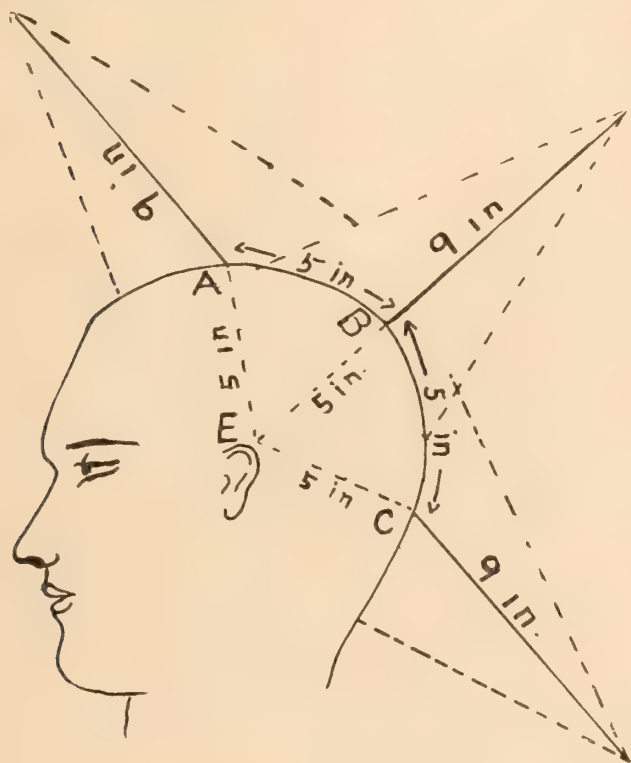


Diagram showing how to map out the scalp. Also shows parts to be protected over the angle of incidence of the ray.

The methods of measuring doses are now so well known, thanks largely to the writings of MacKee, that it is not necessary to mention them. However, we may call attention to the fact that the original Sabouraud technic called for what is equivalent to 5 Holzkecht units measured at "half skin distance," or  $11\frac{1}{4}$  units "full skin distance." However, we have learned that 4 Holzkecht units will cause a satisfactory alopecia. In my first work I measured each dose, using a

8. Sabouraud: *Annal. de l'Institut. Pasteur*, 1, 1904.

Holz knecht radiometer, but soon found that with a Coolidge tube and an interrupterless transformer that a standard technic could be adopted and that it was not necessary to measure the doses. The technic that I employ is as follows: The focal skin distance is 9 inches, the spark gap  $7\frac{3}{4}$  inches, the milliamperage 4, and the time one and one-quarter minutes; this represents a little over 4 Holz knecht units. With such a technic one patient could be treated each ten minutes if it were not for the necessity of carefully marking the spots on which the ray must center. Here I have followed the technic advocated by MacKee and Remer, which consists of the Kienböck method as improved and used by Adamson.<sup>9</sup> The hair is cut short and a line drawn down the center of the scalp from the forehead hair line to the occiput. The middle of this line is roughly determined by the eye and marked with either a skin pencil or by putting a small piece of adhesive on it. This is Point B. Just 5 inches anterior to this point another mark is made — Point A—and just 5 inches posterior another mark—Point C. On the sides of the scalp and 5 inches equidistant from each of the other points we have Points D and E, on the right and left sides of the head, respectively. The tube is centered over each of these points, care being taken that each exposure is given at right angles to the others, and that the required dose be given. The necessity for each exposure being at right angles to the others is explained by the well-known laws of intensity, which are that the dose received by any portion of the skin is in inverse proportion as the square of the distance and directly as the sine of the angle of incidence. This matter is covered very fully in MacKee and Remer's paper, already referred to. For Point B the child sits upright in a chair that is provided with a headrest, and for the treatment of the other four points, lies on a table. When Point A is being treated the forehead and eyes must be covered with lead, when C is being treated the shoulders must be protected, and when Points D and E are being exposed the ears and sides of the face must be covered.

It is not necessary that every hair in the head be removed; the falling of the diseased hairs and of the majority of the others is sufficient to effect a cure provided that the scalp be kept covered with an antiparasitic preparation.

Where there are but one or two small spots it is not necessary to treat the entire scalp if the child is subject to careful and intelligent supervision, but in the majority of instances it is better to remove all of the hair at one sitting, for the falling hairs are almost certain to infect other portions of the scalp. If it be decided to treat but one

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9. Adamson: *Lancet*, May 15, 1909.

spot, it is best to cut a piece of adhesive that will fit this spot and keep it adhering to the hair or else replace it as soon as it comes off. The hair will come off with the adhesive and not be scattered. Ordinarily, the defluvium is complete in about three weeks and the new hair returns in from six to twelve weeks after falling.

A mild antiseptic ointment must be used steadily until the scalp is clean. At first I usually employ yellow oxid of mercury in the strength of 12 grains to the ounce, or else salicylic acid in the strength of from 15 to 20 grains to the ounce. Under no circumstances must a sufficiently strong ointment be used to cause an erythema, for this may cause permanent baldness. After the hair has fallen, full strength of practically any of the antiseptic ointments may be used to clear up any remaining patches.

#### RESULTS

To date I have treated 225 cases of tinea tonsurans by this method, the diagnosis of all doubtful cases having been confirmed by the microscope. The majority of these cases were sent by the Board of Children's Guardians, and were from the various homes supervised by this board. In seventeen instances but a portion of the scalp was epilated, and in fourteen of these cases it was later found necessary to remove all of the hair inasmuch as other patches of the disease developed. In one private case the mother refused to have the whole scalp epilated, and thirty-four different treatments were given to various sized patches before final recovery took place. I should not treat a case in such a way again. In only one instance was there a recurrence, although there were six cases of new infection. In the one case of recurrence the hair was again epilated exactly three months from the date of the original treatment with perfect results. There were but two untoward results due to treatment, both of which should have been avoided. In one instance the clock by which the timing was done stopped during the treatment, the result being an over-exposure and permanent alopecia. In another instance the child moved during treatment and a slight erythema resulted from the overlapping of the fields of exposure with a resulting erythema and a slight thinning in the returning hair. In the children from one home, too strong an ammoniated mercury ointment was used after radiation, and there was a resultant crop of boils, but no other trouble. The hair does not always return the same color. In a private case with beautiful red hair the new hair was brown. At times the texture of the new hair is not the same as that of the old, an additional argument against partial epilation.



There appears to be no convincing report of any brain injury resulting from such roentgen-ray treatment. Macleod<sup>10</sup> has analyzed this situation well.

Among other valuable reports are those of Batten,<sup>11</sup> Ceresole<sup>12</sup> and Emrys-Jones.<sup>13</sup>

#### CONCLUSIONS

The roentgen ray offers much the quickest and surest method of a permanent cure in tinea tonsurans, and with correct technic is absolutely safe.

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10. Macleod: *Lancet*, May 15, 1909.

11. Batten: *Brit. M. J.* **2**:924, 1913.

12. Ceresole: *Arch. Roentg. Ray* **2**:924, 1913.

13. Emrys-Jones: *Brit. M. J.* **2**:849, 1913.

## ECZEMA IN INFANTS AND THE THYROID GLAND

M. L. RAVITCH, M.D., AND S. A. STEINBERG, M.D.

LOUISVILLE, KY.

We dermatologists have been more or less confronted with stubborn cases of infantile eczema. No matter what treatment we prescribe, no matter what modification of milk we devise, our little patients simply refuse to get well. A study of the mothers of infants afflicted with eczema revealed the fact that a goodly percentage of them suffered either from hyperthyroidism or hypothyroidism. We studied such cases very carefully and we were rather successful in the treatment of some stubborn cases of infantile eczema, since we found that some of them were due to dysthyroidism.

### DISTRIBUTION

It has long been noted that the incidents of dysthyreosis varies greatly in different localities. For instance, Switzerland has always been notorious for the number of cases of goiter among the inhabitants of the mountainous country. In Minnesota the same thing is true, while some other states show a distinctly greater proportion of thyroid affections to the thousand of population than holds true for the United States as a whole. However, while these localities have this excessive incidence and some other localities have a comparatively low rate, there is no part of our country that does not have a certain number of thyroidal affections occurring endemically. Moreover, where one type exists all types exist. Thus, while one locality shows a preponderance of the exophthalmic type, another of the myxedematous type and another of simple goiter, in all of these localities cases appear of the less preponderant types as well; in fact, it is the rule that where there is a tendency to any form of thyroidism there will be an excess of all three, although one form may exceed the other two to a great degree.

These facts are true not only for man, but for animals as well. Certain localities which formerly depended mainly on one kind of stock raising have had to abandon that industry for other forms, owing to the loss due to thyroidal affections among their stock. Nor does this occur among domestic animals alone, for thyroidal affections have practically wiped out the fish in certain rivers which formerly teemed with the finny tribe.

## INVESTIGATIONS MADE AMONG LIVESTOCK

It seems an unfortunate fact that human life is one of our cheapest commodities. Certainly there are many affections of the human race which have received scant attention and attempts to combat them have received no financial support from state or federal government, while an epidemic which attacks pigs, cattle or horses is immediately attacked by government investigators well supplied with funds. It is not surprising, therefore, to learn that the increasingly high incidence of thyroidal affections among people aroused but little interest, but that when it was found that valuable livestock was being attacked efficient methods were evolved to save the threatened industry. Diseases of the thyroid in livestock have been investigated, the effect on the young of such affections in the parent noted, and various experiments carried through, having for their object the prevention of abnormal thyroid secretion in the offspring of thyroid dams. Such work has met with considerable success, so that in many localities where stock raising has already been abandoned or would have had to be abandoned, by the use of the treatment evolved by government investigators, the industry has been saved.

## PUBLIC SCHOOL INSPECTION

With the successful results along these lines among animals before them, Marine and Kimball have attempted to carry out the same work among children in the public schools. Their report of the experiments carried out is very conservative, but we believe that in many cases they have been successful in preventing goitrous affection in the children of goitrous parents. Their method has been to give iodine internally in the form of sodium iodide to prevent the tendency to compensatory hypertrophy of the thyroid. They administer about 3 grains daily for ten days to the younger children, making a total of about 30 grains, and 6 grains daily for ten days to the children in the higher grades, a total of about 1 dram. These iodine courses are given twice a year.

## ETIOLOGIC FACTORS

In investigating the causes of infantile eczema we have been struck by the number of cases which occur in breast-fed children, persisting long after the child has been weaned entirely or changed to a modified milk or artificial mixture. No clue could be found in the history of the child itself, but on questioning the mother we have noted the large number of cases in which excessive thyroidal enlargement occurred in the mother during pregnancy; often this enlargement was accompanied by extreme nervousness, rapid pulse, palpitation of the heart

and bulging of the eyes; in some cases we obtain a history of the last symptoms without any enlargement having been noticed. As has been noted by Fruhimolz and Heandelize, eclampsia frequently occurs in myxedematous women, as if the deficient secretory activity of the thyroid is responsible for the accumulation of certain toxins. Certainly it is recognized that there is a certain amount of thyroidal enlargement normal in the pregnant woman, attributed to the excess of toxins during pregnancy and the effort of this gland to produce a larger amount of detoxicating substances. Whether it is only when this increased activity of the thyroid passes certain bounds that there is a strong tendency for the infant to have a dysthyreosis, or whether this may also be caused by a diminished secretion, such as occurs in myxedema, we are unable to say.

#### INFLUENCE OF DEFICIENT FAT METABOLISM

Some few years ago when investigating these infantile eczemas from the feeding standpoint, attempting to divide them into classes according to their inability to assimilate carbohydrates, fats or proteids, we were very apt to assign to the deficient fat-metabolism class the cases we now consider to be due to abnormalities in the thyroid secretion. This is in accordance with the importance in fat metabolism that is attributed to the thyroid by many workers, some of whom consider this gland to be as closely bound up with the fate of some of, if not all, the fat substances as the pancreas is with carbohydrate metabolism. Regarding this point we can only theorize at present, nor have we observed enough cases of this kind to be able to produce clinical figures, yet we believe that there is a deficiency in the fat metabolism among these children whose mothers had excessive disturbance of thyroid secretion during pregnancy or lactation; we would lay especial stress on the influence of the milk of goitrous mothers in causing disturbances of the thyroid in the nursling, owing to the fact that these cases have occurred, in our experience, more often in breast-fed babies than in those fed on other mixtures.

#### CLINICAL FEATURES

The type of infantile eczema which we think is very likely due to the disturbed thyroid secretion does not differ much from other infantile eczemas. However, it is peculiar, we believe, in that this form of eczema is always a dry one. The skin is harsh and rough; there may be sweating, but no fatty or oily secretion seems to be present, since the hand passed over the skin immediately misses that supple, flexible yield of the skin which is characteristic of the well-oiled skin, nor can this be restored by any amount of rubbing in of



oily or fatty substances from without. It is as if, owing to the lack of some secretion, the ingested fat cannot be utilized by the skin-glands to produce the fat so necessary for the lubrication of the skin; very likely there is an inability, probably only partial, on the part of the nonglandular cells to handle the fatty substances which come to them, so that they themselves do not contain the usual amount of lipins, that is, fats, lipoids, etc.

#### TREATMENT

As said before, it is not known in which cases we are dealing with a compensatory hypertrophy, or where there is a deficiency. It has been proven that in the compensatory hypertrophy following on partial thyroidectomy the administration of iodine or iodide in quite small amounts is able to stop the hyperactivity if it has not gone too far; if the iodine is given immediately after the operation and hypertrophy does not occur. Thyroid glands from the slaughter-house may be substituted for the iodine, since this tissue is rich in iodine compounds. It is interesting to speculate on the well-known affinity of iodine for the unsaturated fatty acid compounds as an explanation of the influence of the thyroid on fat metabolism. The connection between the thyroid and calcium metabolism is still very obscure, and it may be that this latter element may also be concerned in the production of this form of eczema. At any rate it would seem worth while to try iodine or thyroid gland administration in those cases of infantile eczema where there is an enlargement of the thyroid gland in the child or a history of such an enlargement during pregnancy or nursing in the mother. Theoretically — if we can form a theory from the scant array of facts in our possession — it would seem preferable to give iodides where there is any sign of hyperactivity of the thyroid in child or mother, thyroid gland itself where history or symptoms point to a myxedema. We believe that the danger of causing goiter by such medication is almost if not quite nil. We should, however, remember that a very small amount of iodine is sufficient to produce saturation of the thyroidal tissue, which is what we are trying to obtain. Larger doses can absolutely accomplish no more than this, but may, on the other hand, produce untoward results in other ways. Therefore, the daily dosage of sodium iodide in these cases should not exceed 6 grains daily and may be much less; for infants, 1 grain a day is enough.

## ATYPICAL SCABIES

DOUGLASS W. MONTGOMERY, M.D.

SAN FRANCISCO

Typical scabies with "runs" is usually found over the front of the wrist and adjoining palm, and between the fingers; the classic eruption occurs in this situation and over the elbows, in the axilla, over the abdomen, in the gluteal folds, in the male on the penis and in the female on the nipples; and with its history of contagion and the involvement of the sleeping companion and of the family, and the bitter complaint of nocturnal itching, it is easy of recognition. The obscure, atypical cases, however, and they are not so infrequent, are very elusive, and because scabies is seldom cured unless recognized, and never spontaneously dies out, may constitute a really grave malady from nervous exhaustion and want of sleep.

### DIFFERENTIAL DIAGNOSIS

Gougerot, who has had a vast experience with scabies on the western battle front, has given an excellent résumé of the diseases it may simulate.<sup>1</sup>

Scabies may mimic a generalized eczema, although in that case the eruption is apt to be more marked in the situations favored by the itch mite, such as over the elbows and on the nipples. Any eczema of the nipples, not occurring during pregnancy or lactation, should be suspected of being scabetic.

The little pustules of scabies may recall those of the pyodermata such as ecthyma, pustular acne or furuncle, which, however, have usually a different localization from that of scabies. The pyodermias, however, incident to scabies, may spread to their own favorite localizations on the face and on the back of the neck for instance, and obscure the diagnosis.

Sometimes scabies causes a bullous eruption simulating the dermatitis herpetiformis of Duhring, or a pruritic pemphigus, or that curious and persistent affection occurring on the sides of the fingers called dysidrosis. Indeed, Gougerot especially warns that in every case of dysidrosis the acarus should be carefully searched for. The acarus also may give rise to a purely itchy affection with irritability of the skin mimicing urticaria. In fact, in every case of urticaria as in every case of dysidrosis, a careful differential diagnosis should be made.

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1. The proof sheets of H. Gougerot's book, "*La Dermatologie en Clientèle*," were corrected while the author was in the trenches in the great war.

Scabies may give rise to a polymorphous eruption with papules and a roseola resembling an early syphilid, and the fact that the glans penis is a favorite locality for the itch mite, and that, in this situation, it may give rise to a lesion resembling a chancre, contributes to the confusion. I, myself, remember to have made this mistake at least once. Finally, especially on the lower limbs, scabies may cause lesions resembling tuberculids.

#### CLINICAL HISTORY OF A CASE

The immediate occasion for writing this paper was a young woman who consulted me on account of a minutely vesicular eruption on the sides of the fingers, some scratch lesions on the arms and in the axilla, a finely granular crusted eruption in the supramental groove, which, with the lens, was seen to be also minutely vesicular, and a fierce, generalized, sleep-robbing pruritus.

The vesiculation on the fingers and face recalled a plant poisoning, such as primula or poison oak, but the patient was familiar with both, and denied exposure. Scabies was next considered, but there was no pustulation. There were no lesions between the fingers nor on the front of the wrists, nor on the immediately adjacent portion of the palms which are so frequently affected. The axillae were itchy, but almost entirely free of eruption. The nipples were also itchy, but did not even look irritated. In addition to all this, no other member of the family suffered from the same complaint, but it so turned out that no member of the family had occupied the same bed with her, either for the four months during which the trouble had endured, or for quite a time previously, so that this point, usually so weighty, was in her case not a determining one. On account of all these reasons scabies was temporarily excluded, and the fact that there was an eruption on the face, where scabies never exists, was also a weighty factor in this exclusion.

A universal pruritus, or an illy marked urticaria, was next considered. The patient did have factitious urticaria. Usually urticarial eruptions arise from intestinal intoxication. The patient had a coated tongue, and recently a marked loss of appetite, and also recently had lost in weight; there were, however, no other symptoms of indigestion or of foreign fermentations in the stomach or bowels. Sometimes, however, in the presence of anemia or bilemia, very little, otherwise insignificant, intestinal intoxication may give rise to pruritus. The blood color, however, in this case was very nearly normal, and there was no yellowness either of the complexion or of the conjunctivae, as indicating bile in the tissue juices. The urine was not examined.

Remembering Gougerot's admonition in regard to vesicular or bullous eruptions on the sides of the fingers, the thought that the trouble might be scabies was reconsidered. There was one crusted rather elongated lesion in the center of the left palm, and another on the volar surface of the first phalanx of the left thumb. If anything, the lesion on the palm looked the better one for examination, but because of the hollow shape of the palm, rendering it impossible to get the flat of a scalpel into it to shave off the epidermis, the lesion on the thumb was chosen for examination. The shaving was laid on the microscopic slide bottom side up, and examined in glycerin, and the cuniculus provided with acarus eggs and feces was easily demonstrated, and the diagnosis was so fixed beyond a doubt.

The patient recollected that a short time before she became annoyed by the disease, she had taken a trip to a town in the interior of the State. The hotel was clean, but it is impossible to be sure, in any hotel, that the bed linen is changed for each guest. No matter what the management, the servants, to save themselves labor, may just smooth out the sheets without changing them. The patient said she always had a very sensitive skin; it is, however, wholly inexplicable why it should have reacted so eccentrically to the itch mite.

#### PRACTICAL CONSIDERATIONS

The lesson to be learned from the foregoing case is that, although in the majority of cases the itch mite causes a characteristic papulopustular eruption on the skin, it may give rise to a quite different reaction, and besides simulating pustular eruptions such as impetigo, acne, syphilis, and some of the tuberculids, it may mimic a vesicular or bullous disease such as eczema, dysidrosis, dermatitis herpetiformis, or pemphigus, or the irritation may even be more purely neurotic and cause an urticaria.



## CLINICAL TYPES OF LICHEN PLANUS

JOHN A. FORDYCE, M.D., AND GEORGE M. MacKEE, M.D.

NEW YORK

### INTRODUCTION

While lichen planus is not a rare disease, it is not very common, constituting only about one-half of 1 per cent. of the dermatological cases seen in the clinics of the United States. Although men interested in dermatology, but working in sparsely populated districts, do not encounter many cases of lichen planus, yet there is usually very little difficulty in making a diagnosis on account of the classical symptom—the tiny, flat-topped, shiny, polygonal, umbilicated, violaceous, pruritic papule. No matter how confusing is the eruption as a whole, careful inspection will usually reveal a sufficient number of typical papules to allow of a diagnosis.

In postgraduate instruction we have remarked a lack of familiarity with the unusual clinical types of the disease and at the meetings of the three dermatological societies in New York there are cases occasionally shown with such atypical manifestations that a positive diagnosis cannot be made without resorting to a microscopic examination.

In the course of several years we have seen a number of interesting and unusual examples of lichen planus which have been photographically recorded. The object of this communication is to place the collection of photographs at the disposal of physicians interested in dermatology, but who do not have the advantage of voluminous clinical material.

### CLINICAL VARIETIES

*Acute Attacks of Lichen Planus* (Fig. 1).—Sudden and generalized eruptions occasionally occur. The severe itching is very distressing and difficult to control. When this eruption is more or less generalized or universal, the papules are likely to be so poorly developed and so masked by the erythema as to make the diagnosis difficult. A careful inspection, however, will usually reveal areas containing the typical papules which, perhaps, can be detected only by a light that strikes the skin from one side. A careful study of this photograph will show closely crowded but easily seen lichen papules in places, while in other locations, nothing but erythema is shown.

*Lichen Planus of the Palms and Soles* (Figs. 2, 3 and 4).—Lichen planus is not commonly encountered in these locations and when attacking the palms and soles the eruption has a different appearance



Fig. 1.—Acute type of lichen planus.

from that occurring on other parts of the body. The papules are usually rather large, deep seated, perhaps semi-translucent, likely to be globular and suggest deep-seated vesicles. After the eruption has existed for some time exfoliation is apt to occur. In the early stages of evolution the eruption may suggest dermatitis venenata or eczema of pompholyx, while in the later stages the affection must be differentiated from psoriasis, eczema and syphilis. The diagnosis is difficult only when there is no eruption elsewhere on the body—a rare occurrence.



Fig. 2.—Lichen planus of the palms.

*Lichen Planus of the Mucous Membranes.*—When occurring on the lips (Fig. 5) the papular element is usually missing and the eruption, on account of the dryness and adherent scales, markedly resembles lupus erythematosus.

On the tongue (Fig. 6), usually on the dorsal surface, the eruption may resemble leukoplakia, but papules or at least a mosaic appearance is usually manifest. This is also true of lichen planus of the mucosae of the cheeks.

The glans penis (Fig. 7) is a favorite situation for lichen planus. The eruption may consist of a few isolated papules or, quite commonly, the papules are grouped, forming an annular lesion. Occasionally lichen planus attacks the mucosae and spares the skin for



Fig. 3.—Lichen planus of the palms.



Fig. 4.—Lichen planus of the soles.



quite a long period, so that one must be able to recognize the mucous membrane lesions of the disease without depending on skin manifestations.

*Linear Lesions of Lichen Planus.*—Lichen papules tend to develop in scratch marks (Fig. 8), and this phenomenon occurs only in three other diseases, namely, psoriasis, dermatitis venenata, and verrucae



Fig. 5.—Lichen planus of the lips.



Fig. 6.—Lichen planus of the tongue.

planæ juvenilis. Occasionally the papules in the scratch mark become hypertrophied producing a linear hypertrophic lichen planus which may persist for many months (Fig. 9). Rare examples of lichen planus are encountered where the eruption in distribution and even in appearance, resembles a nevus unius lateris (lichen planus zosteriformis, lichen planus linearis, etc.). Such an eruption, as depicted in

Figure 10, may contain hypertrophic papules which suggest the verrucous linear nevus, ordinary lichen papules, annular lesions, etc.

*Umbilication.*—This is by no means a constant phenomenon, but a careful inspection will usually reveal at least a few papules that are



Fig. 7.—Lichen planus of the glans penis.



Fig. 8.—Lichen papules in scratch marks.

slightly depressed in the center. Figure 11 shows papules that exhibit varying degrees of umbilication. It is usually stated that the lichen papule is flat-topped or more or less umbilicated, and this is quite generally true. In acute attacks, however, and especially on the forearms, palms and soles, many of the papules may be obtuse.

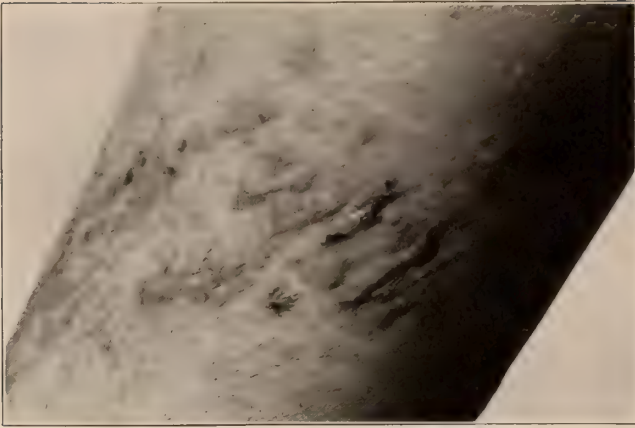


Fig. 9.—Linear hypertrophic lichen planus.

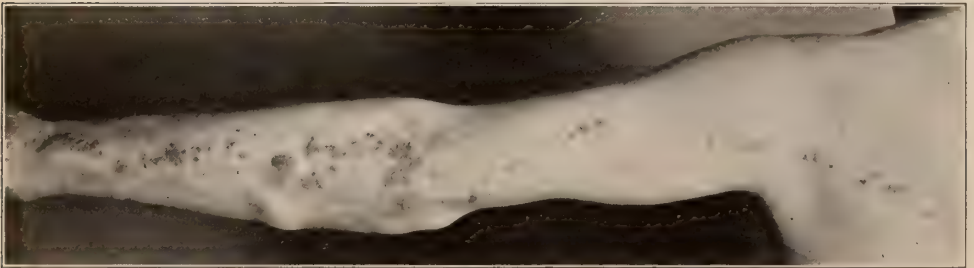


Fig. 10.—Lichen planus linearis.



Fig. 11.—Large lichen papules showing umbilication.

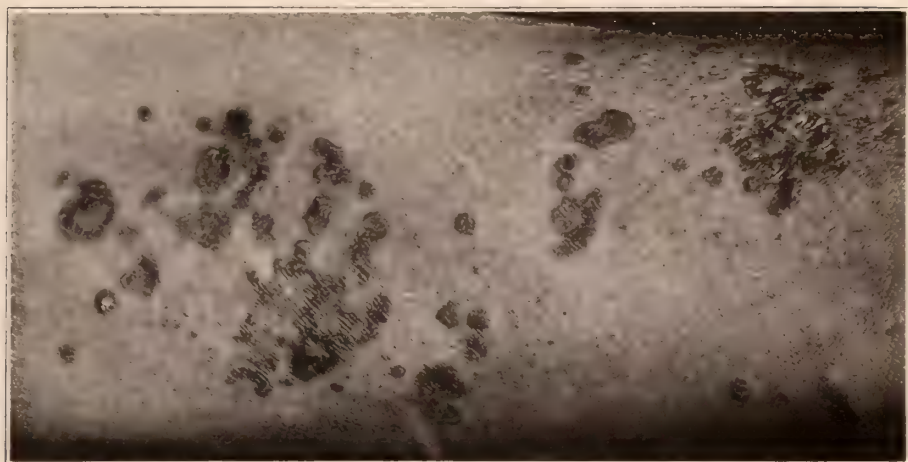


Fig. 12.—Lichen planus annularis.

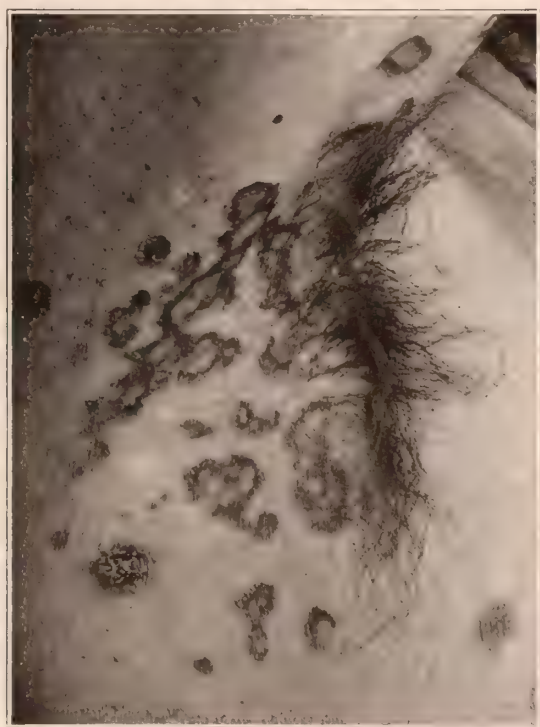


Fig. 13.—Lichen planus annularis with pigmentation.



*Lichen Planus Annularis. Pigmentation.*—Annular lesions commonly consist of a configurate grouping of individual papules. Very rarely a hypertrophic lesion may involute more rapidly in the center than at the periphery giving rise to an annular lesion. We do not recall ever seeing an annular lesion produced by peripheral extension,

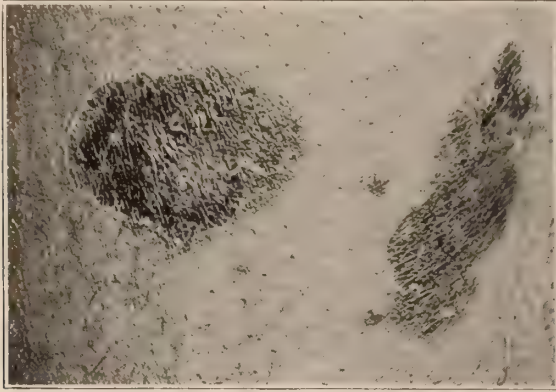


Fig. 14.—Lichen planus annularis with pigmentation and rolled edge.

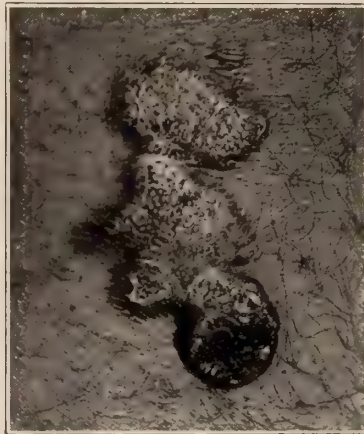


Fig. 15.—Lichen planus hypertrophicus with pedunculated tumor containing large follicular plugs.

although this may occur. The papules forming the ring may retain their individuality or they may become fused and even hypertrophic. Figure 12 shows various types of annular lesions. Figure 13 demonstrates annular lesions with considerable pigmentation. Marked pigmentation is not an uncommon complication of lichen planus, and it may even be a sequela, because the pigmentation may persist for

several months after the eruption has disappeared. Figure 14 shows two large areas of pigmentation with a very delicate rolled edge. The lesions resembled the plaque type of basal cell epithelioma, but the histology of the rolled edge was that of lichen planus. The lesions also suggest the possibility that the annular configuration was produced by peripheral extension. Between the two large lesions is seen a tiny one about the size of a split pea having exactly the same details as the larger lesions.

*Hypertrophic Lichen Planus.*—Lichen planus hypertrophicus is well described and depicted in the textbooks. Figure 15 shows a



Fig. 16.—Lichen planus resembling psoriasis and chrysarobin staining.

hypertrophic lesion having unusual characteristics. The lesion is divided into three parts. The upper and middle parts show the usual features of hypertrophic or verrucous lichen. But the lower part consists of a pedunculated tumor containing large horny, follicular plugs. A few of the plugs were of the consistence of cheese and occasionally there was a little suppuration in the follicles associated with discharge, inflammation and pain. We thank Dr. H. H. Whitehouse for the privilege of photographing this case.

*Lichen Planus Resembling Psoriasis and Syphilis.*—Figure 16 shows a widespread, scaly eruption with some staining and numerous

light areas. The general appearance is that of a generalized psoriasis that has been treated with chrysarobin. The explanation for this appearance is that the patient had a generalized, violently acute eruption of lichen planus which, when involution set in, produced exfolia-



Fig. 17.—Lichen planus suggesting rupial syphilid.

tion and irregular pigmentation. The diagnosis, on careful inspection, was not difficult, as there were areas where large numbers of typical lichen papules could be seen.

Figure 17 illustrates a remarkable example of lichen planus in which the larger lesions on the lower extremities were considerably

infiltrated and formed a thick, horny crust which resembled exudative crusts. At first glance the eruption suggested a rupial syphilid, a bromid eruption or an ostraceous psoriasis.

*Mosaic Formation.*—Lichenification or a mosaic (Fig. 18) is common in lichen planus and when occurring in a single circumscribed area, as sometimes happens, difficulty may be had in differentiation from lichenification from other causes (eczema, lichen chronicus circumscriptus, etc.).

#### TREATMENT

The usual treatment, of course, is the internal administration or injection of arsenic and mercury, either alone or combined, together with the local application of antipruritics, soothing or stimulating remedies, according to indications.

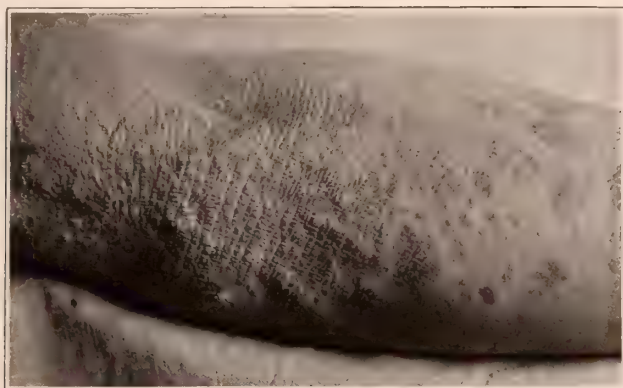


Fig. 18.—Lichen planus with mosaic formation.

The value of arsenic and mercury is open to discussion. Lichen planus, if left alone, runs a course of from a month or two to a year or more. We are not convinced that either of these remedial agents is able to shorten the natural course of the disease. On the other hand, the roentgen ray will arrest the itching and will cause involution of the lesions in a few weeks in the majority of cases. In acute lichen the roentgen ray acts very rapidly, the eruption subsiding under the influence of an exceedingly mild application ( $H \frac{1}{16}$  to  $H \frac{1}{4}$ , skin distance, once or twice weekly\*). Hypertrophic lesions yield more slowly and require larger doses. Radium has the same effect, but of course, it is serviceable only in an eruption of limited extent.

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\*  $H$  = Holzknicht unit of roentgen ray.



# Society Transactions

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## NEW YORK ACADEMY OF MEDICINE, SECTION ON DERMATOLOGY

*Regular Meeting, April 2, 1918*

GEORGE M. MACKEE, M.D., *Chairman*

DERMATITIS HERPETIFORMIS (?). Presented by DR. ROTHWELL.

The patient was a young woman, aged 19, whose skin condition had existed since infancy when it had been called eczema. It consisted of an eruption on the upper part of the trunk, face, neck, arms, thighs and legs, of scratched lesions, with considerable thickening of the involved areas, and without, at the time of presentation, a characteristic arrangement of lesions of Duhring's disease. The history was that of remissions either in connection or irrespective of treatment, and of outbreaks of lesions accompanied with almost unendurable itching. The clinical appearance was not characteristic of Duhring's disease of the classic type, but it was considered to be an atypical case of the disease because of the history and behavior.

### DISCUSSION

DR. GOLDENBERG said he thought it was hard to make a diagnosis in this case but he could not accept the diagnosis under which the case was presented, as he could not see any signs of that disease. The case impressed him as being one of chronic lichen simplex with secondary eczema.

DRS. PAROUNAGIAN, GILMOUR and AITKEN agreed with the diagnosis.

DR. ROTHWELL said the young woman had been under observation for some time and while the case looked like an eczema, he thought the diagnosis of chronic lichen simplex was not correct. The patient stated that she had had the condition, with recurring attacks of itching, since infancy. The speaker said he knew there was no characteristic grouping of the eruption but on account of two years' observation of remissions and recurrences, irrespective of treatment, he thought the diagnosis of dermatitis herpetiformis should be considered. Chronic eczema had been thought of but it did not fit the picture of eczema as it had been present since childhood.

DR. GOLDENBERG said he thought the diagnosis of lichen simplex should not be criticized. The itching spoke for rather than against that diagnosis. That which was lacking to make it a case of dermatitis herpetiformis was the absence of polymorphism and the grouping of the eruption as well as the location of the skin condition.

DR. ROTHWELL said they had seen a vesicular eruption and at other times vesicles in groups, but they did not feel confident enough to make a diagnosis of dermatitis herpetiformis until some one else agreed with them.

DR. WEISS said he had seen the patient last year and had made a diagnosis of lichen simplex on account of the location, intense itching and the papular eruption. The patient then disappeared and they could not make a final histologic examination but the clinical diagnosis was lichen chronicus simplex, eczematized on account of the long-standing extensive scratching of the skin.

## MYCOSIS FUNGOIDES. Presented by DR. MACKEE.

Mrs. L. R., married, aged 55, presented herself at Dr. Fordyce's clinic for the relief of an intensely pruritic eruption, which consisted of numerous plaques resembling chronic eczema. The duration of the disease was six years. It began as an acute inflammatory eruption which was at first generalized, later becoming limited to various regions of the skin. On examination, she exhibited a large, somewhat scaly, dark red, slightly infiltrated patch occupying the entire left buttock. Opposite the coccyx, there was a hazelnut-sized, firm nodule, situated at the edge of the large plaque. There were numerous eczema-like, smaller patches scattered over the trunk and extremities, closely resembling the patchy form of parapsoriasis. The diagnosis of mycosis fungoides, however, was confirmed by the microscope. She had improved under roentgen-ray treatment in the hands of Dr. Remer.

## DISCUSSION

DR. GOLDENBERG said there was a typical patch of the premycotic stage of mycosis fungoides on the buttocks.

## KERATOSIS FOLLICULARIS. Presented by DR. BECHET.

The patient, from the service of Dr. Trimble, was a male adult, aged 44. He stated that the disease began thirty years previously. His mother, sister, and brother were similarly affected. The brother was also exhibited, the clinical history following the present one. A clinical report of this family had been made by Dr. Trimble several years previously. The man had a very extensive outbreak of the disease. The lesions on the face consisted of aggregated, horny, brownish-gray papules, particularly plentiful in the temporal regions, forming more or less irregular, verrucous-like patches. The palms of the hands were covered with a thickened, cuirass-like layer of epithelium. The feet, particularly at the base of the toes, were greatly affected; the lesions in this location were papillomatous in character, and extremely numerous; some of them were a half inch in length, and emitted an offensive odor. The soles were covered with horny excretions, so much so, that walking was made difficult.

## KERATOSIS FOLLICULARIS. Presented by DR. BECHET.

The patient, an adult man, and a brother of the previous patient, also from the service of Dr. Trimble, showed the disease in about the same locations. The face, hands, and feet were most involved, the body, with the exception of the chest, being practically free. He also had an extensive, horny, hyperkeratosis of the palms and soles. The face and toes also presented brownish, raised, horny concretions.

## SYPHILITIC REINFECTION. Presented by DRs. GOLDENBERG and CHARGIN.

P. L., aged 23, married, was presented at the March meeting, since which time an eruption appeared on the arms, chest and abdomen.

## DISCUSSION

DR. CHARGIN said that the patient came to Mount Sinai Clinic nine months ago with initial lesions on the lip and tongue, accompanied by a submaxillary adenitis and a papular eruption on the body. The Wassermann reaction was ++++. He was immediately placed under treatment and received during the first week, two mercury (2 grains) and three arsphenamin injections (1.2 gm.) and during the subsequent three weeks an additional three arsphenamin injections (making a total of 2 gm.) and three mercury injections (a total of 5 grains). The lesions on the lip and tongue, the submaxillary

adenitis and the body eruption disappeared. A month later the Wassermann test was negative. The patient remained away from the clinic and did not return until four weeks prior to presentation to the Section. He then presented two lesions on the penis, one on the upper and the other on the lower surface, which he stated were of from three to four weeks' duration. The upper one was characteristically indurated. The Wassermann test at that time was +++ but the patient showed no secondary eruption. From that time to the date of the last presentation, he received no antisyphilitic treatment, except on two occasions one drop each of a 10 per cent mercury suspension. On March 23 a papular eruption appeared on the forearms, chest and abdomen which was present when the patient was presented the second time.

DR. MACKEE said Dr. Lapowski wished him to state that he considered the lesion on the penis not a chancre but that it was a group of three or four papules and that this was a part of the generalized relapsing eruption. Dr. Lapowski also wished to call attention to the annular configuration of the lesions on the body—a point in favor of a relapsing syphilid.

DR. AITKEN asked if spirochetes were found in the lesion on the lip.

DR. GOLDENBERG said that when the case was presented at the last meeting he was very conservative and stated that the case had been presented as one of reinfection with a "question mark." He also reiterated the facts that had been brought out by Dr. Chargin, and stated at that time that the possibility that this was a secondary syphilid could not be excluded. He had changed his mind since that time and presented the case, the second time, as a case of reinfection. This case, in his mind, responded to all the requirements. As he had stated at the previous meeting "a chain of evidence is as strong as its weakest link" and that one weak link was that the patient had not been seen from September—when the Wassermann test was negative—until the following February. Spirochetes had been found by the dark-field illumination. In July no dark-field examination was made, as the case was typical with secondary eruption and a positive Wassermann reaction. In addition to what Dr. Chargin had said, they had examined the patient very carefully since the former meeting and while he had at that time a satellite enlargement of the inguinal region, he showed at the last meeting a distinct gland in the cubital region which had since developed, and a secondary syphilid. The patient had syphilis and was treated with arsphenamin and mercury and came back with characteristic lesions on the penis with general malaise, nocturnal pain, adenopathy, and a macular papular eruption, and the speaker considered the case as one of reinfection.\*

DR. HEIMANN said it was quite impossible to add anything to Dr. Goldenberg's exposition, the logic of which was compelling. One point that had been referred to by Dr. Aitken which he thought of no importance was the presence of spirochetes. In secondary lesions it was possible to get spirochetes as well as in primary lesions so that this would not be evidence as to whether it was a reinfection or not. However, the fact that spirochetes were found was of interest. Very often in primary lesions when antiseptics had been used spirochetes were not found so that their absence would hardly exclude a chancre.

DR. PAROUNAGIAN agreed with the diagnosis of reinfection, as the primary lesion in the first infection was on the lip and the patient had received energetic treatment with arsphenamin and mercury, and almost ten months later presented an indurated genital lesion, four or five weeks later followed by roseola. This would be convincing enough to make the diagnosis of reinfection.

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\*A few days after presentation the patient showed mucous patches on the right tonsil.

DR. CHARGIN said in regard to the remarks of Dr. Lapowski who stated that the lesions on the penis were papules of the first infection rather than initial lesions of a new infection, that in reindurated papules one did not get satellite glandular enlargement which was present in a characteristic fashion in this case.

#### SUPERFICIAL EPITHELIOMA OF THE BACK. Presented by DR. WISE.

The patient, W. P., a man, aged 35, was from Dr. Fordyce's clinic, and presented a slightly infiltrated plaque on the back, in the middorsal region. This was of triangular shape, about 2 inches in diameter, smooth, dark red, and free of scales, and at one edge there was a distinct slightly raised, yellowish, rolled and waxy-looking, crescentic elevation. In addition several seborrheic keratoses were scattered in the vicinity of the lesion.

#### DISCUSSION

DR. HEIMANN said this was a remarkable case. The senile lesions and the epithelioma were interesting. There were three or four possible explanations, the correct one depending on the microscope. It might have been a vascular nevus or a roentgen-ray burn but the speaker said he did not know that there was any history of roentgen-ray treatment. It might be Paget's disease. The speaker thought a biopsy should be made.

#### CASE FOR DIAGNOSIS (PARAPSORIASIS OR PREMYCOSIS). Presented by DR. ROTHWELL for DR. TRIMBLE.

The patient was a young man, aged 25, with large plaques scattered over the whole body; these had existed since childhood. The plaques were scaly; retiform on the inside of the arms; showed slight infiltration, several small areas rather deeply so; itching was a minor factor. The case in many respects resembled mycosis fungoides though it had the peculiar retiform appearance on the arms so characteristic of parapsoriasis. The microscopic report showed mild infiltration in the upper part of the corium, resembling parapsoriasis rather than mycosis fungoides.

#### DISCUSSION

DR. ROTHWELL said that the microscopic report was parapsoriasis.

DR. GOLDENBERG said he would make a diagnosis of parapsoriasis and not mycosis fungoides from the fact that the eruption, according to the patient's statement, was of twenty years' duration and itched only recently when he had internal medication. The internal medication consisted of Fowler's solution and it was a fact, brought out by Stokes, that in parapsoriasis when there was a vascular instability, medication with iodids caused objectively or subjectively a worse condition. The same probability applied to arsenic.

DR. HEIMANN said that mycosis fungoides very often began with the picture of erythrodermia pityriasique. This ordinarily did not itch in spite of the administration of arsenic which Stokes stated provoked itching in parapsoriasis. In other diseases arsenic caused no pruritus. Whether the administration of the arsenic and the appearance of the itching was a matter of chance the speaker said he did not know. The lesions were too infiltrated and too red to fit in with the picture of parapsoriasis. In regard to the microscopic examination, it should be taken with a grain of salt as premycosis might look like parapsoriasis. Clinically, the speaker said if he had to decide one way or the other, he would consider the case as early mycosis fungoides. The microscopic report would not have any bearing, as the section might have been parapsoriasis and there could at the same time be other lesions which were mycosis fungoides.

DR. MACKEE said he agreed with Dr. Heimann regarding the pathology and the clinical findings. The fact that the eruption had existed twenty years did



not mitigate against premycosis. The itching was in favor of mycosis fungoides. The lesions changed in contour and new ones appeared, whereas the eruption of parapsoriasis was always fixed. There were also some infiltrated lesions which did not occur in parapsoriasis.

DR. ROTHWELL said that they selected what they thought was an infiltrated plaque for the biopsy. The clinical diagnosis at first was mycosis fungoides. The patient stated that the eruption had been present all the time although sometimes modified. He also stated that it had not itched for years, but that the itching began since he took the arsenic. He was taking 1 drop, three times a day. The microscopic report stated that it was probably not mycosis fungoides but was more likely parapsoriasis.

DR. MACKEE suggested trying roentgen-ray treatment and if the case were parapsoriasis it would not be influenced by the roentgen ray, whereas if it were mycosis fungoides the condition would improve.

DR. GILMOUR asked how early in life mycosis fungoides appeared.

DR. MACKEE said mycosis did not appear earlier than the age of 25 or 30 years.

DR. ROTHWELL asked if any one knew of premycosis appearing at the age of 6 years. He thought there was considerable evidence in favor of parapsoriasis.

PSEUDOLEUKEMIA CUTIS (HODGKIN'S DISEASE). Presented by  
DR. ROTHWELL for DR. TRIMBLE.

The patient was a man, aged 40, a ward patient in Bellevue Hospital. The speaker said that at first, months ago, the diagnosis was not absolute; but after considerable study, it was definitely decided to be Hodgkin's disease. The case was shown for the skin condition which consisted of a patch, palm-sized, on the left side of the neck. It was granulomatous in nature, brown in color, and showed scars from previous ulcerations. The cutaneous lesion appeared after an operation for removal of one of the glands in the neck, and had slowly progressed since. The first operation was nine years ago and the second about two years ago. It resembled scrofuloderma very closely and a piece of tissue excised for microscopic examination gave the picture of Hodgkin's disease, especially the peculiar giant cells characteristic of the condition.

#### DISCUSSION

DR. ROTHWELL said the patient had been operated on for tuberculous glands (?) nine years ago and again one and one-half years ago. The case was considered at first to be one of scrofuloderma, but later the diagnosis of Hodgkin's disease was made. They felt quite confident that the picture under the microscope corresponded to Hodgkin's disease, and not that of tuberculosis. The skin and gland tissue had been examined pathologically. The red blood count was 2,500,000 on several occasions.

DR. HEIMANN said clinically it was a case of scrofuloderma but whether Hodgkin's disease looked like it he did not know. He did not see anything in the clinical report or histologic report that indicated that the diagnosis was correct.

DR. GOLDENBERG said that neither the clinical nor microscopic report proved Hodgkin's disease. He thought it was more important to have an examination made of the incised gland. If it was a tuberculous gland he would consider it a case of scrofuloderma.

DR. MACKEE said he shared Dr. Heimann's curiosity about the typical giant cells of Hodgkin's disease. Clinically, the case was one of tuberculosis cutis of the lupus vulgaris type.

DR. ABRAMOWITZ said if it was Hodgkin's disease of two years' duration with glandular involvement, he could not understand it being localized so long.

LUPUS VULGARIS WITH EPITHELIOMA OF THE NECK. Presented by DR. SCHEER.

D. K., aged 56, presented a lupus which involved the entire front portion of the neck as well as the lower part of the right cheek. On the left side it extended from the jaw line to 4 inches down the neck, forming a semi-lunar patch. The lupoid skin was dry and scaly and nodular at the edges. The midportion of the patch was ulcerated and contained many nodules. The submental region was occupied by enlarged glands which appeared five years ago. The Wassermann reaction was negative.

DISCUSSION

DR. GOLDENBERG said his opinion was that this was a case of lupus tumidus. He would doubt the diagnosis of epithelioma until a microscopic examination was made.

DR. GILMOUR thought it was too soft to be epithelioma.

DR. SCHEER said the diagnosis of epithelioma was only tentative. It was suggested by the hard border and the ulceration.

NEVUS UNIUS LATERALIS AND NODULAR SYPHILODERM. Presented by DR. ROSEN.

The patient, J. M., a married man, native of Spain, applied at Dr. Fordyce's clinic for the treatment of a patch of nodular and serpiginous syphilis which occupied the frontal portion of the scalp and the forehead down to the eyebrows. When the patient was stripped for examination, it was observed that the right side of the back and the right arm presented a large number of closely aggregated lentiginous lesions, forming large plaques, sharply defined over the middle of the dorsal vertebrae. The lesions had been present since birth.

DERMATITIS VENENATA WITH PECULIAR LINEAR LESIONS. Presented by DR. WISE.

Mr. B., aged 42, had the eruption for three years. In addition to the ordinary crusted lesions on the wrists and backs of the hands, he presented a series of reticulated, striated and linear lesions of the cubital spaces and upper arms, somewhat resembling parakeratosis variegata. Itching was moderate. The cause of the original eruption was contact with grease, oil and petroleum, setting up a dermatitis. The patient was referred to the speaker by Dr. Pollitzer.

LICHEN RUBER ACUMINATUS (?). Presented by DR. ROTHWELL.

The patient was a man, aged 36, whose face and neck showed the condition characteristic of eczema of the papulo-squamous type. There was a pronounced pityriasis on the scalp, and when first seen, over the whole abdominal region the follicles were enlarged, inflamed, discrete, and gave the nutmeg-grater feel to the hand. This condition on the abdomen brought up the question whether it might not be a very early case of lichen ruber acuminatus, especially since the skin condition was chronic, and had existed a long time and was very resistant to treatment.

DISCUSSION

DR. ROTHWELL said the patient was formerly treated at the Skin and Cancer Hospital but was later a private patient of Dr. Trimble's. He had enlarged follicles over the abdomen and on the forearms. It looked like papulo-squamous eczema on the face. The condition was of thirteen months' dura-

tion. A biopsy was made but the laboratory diagnosticians would not pin themselves down to lichen ruber acuminatus.

DR. HEIMANN agreed with the diagnosis.

LEPRA NODULOSA. Presented by DR. BECHET.

The patient, a male adult, from Dr. Trimble's service, was aged 21, and a resident of the United States for fourteen years. He stated that he was an Italian by birth, and that the disease began seven years ago. The patient had a brother also affected with leprosy. He presented for examination an enormous number of various sized, brownish-yellow nodules and tubercles, scattered over the face and ears; the eyes were also affected, exhibiting surface tubercles. The eruption was exceedingly disfiguring, some of the lesions being almost as large as a small walnut. Hansen's bacillus was found in large numbers, in one of the excised nodules.

LYMPHANGIOMA CIRCUMSCRIPTUM. Presented by DR. ROTHWELL.

The patient was a little girl, aged 7, on one side of whose neck there was a patch of densely crowded tense vesicles, the whole patch measuring about 3 inches in one diameter and 2 inches in the other. The mother stated that the condition had been present since the child's early infancy and usually caused no symptoms. At times (usually under the influence of different applications prescribed to reduce the condition) the patch and the immediately surrounding skin would become reddened and then the child would complain of some soreness. The case had come to the Skin and Cancer clinic and had been sent to Dr. Trimble for radium treatment.

DISCUSSION

DR. ROTHWELL said this case had been treated as eczema for two years, while there had been some dermatitis. The diagnosis was made by Dr. Kingsbury. The patient had received one or two radium treatments.

TUBERCULOSIS VERRUCOSA CUTIS. Presented by DR. THRONE.

S. D., aged 22, was born in Austria, in the United States six years, by occupation a polisher on metals; he was from Dr. Whitehouse's service. His family history was negative. His father died at the age of 75. His mother and two sisters and one brother were living. He denied syphilis and gonorrhea. There was no history of other disease. He could not remember the appearance and evolution of the first lesion. He said the later lesions began with some inflammatory symptoms followed by exudate after which the skin became "very dry." There had been considerable ulceration followed by scarring but attended by little pain. He received local treatment for ten years. He had injections in the arm—probably tuberculin—for three weeks, five months ago, without improvement. He was first seen by the speaker the day of presentation to the Section so that no laboratory data were available.

DISCUSSION

DR. PAROUNAGIAN agreed with the diagnosis.

DR. HEIMANN said inasmuch as we were very particular about nomenclature, he was against calling this case tuberculosis verrucosa cutis. He would call it lupus verrucosus. There were other forms of tuberculosis and scrofuloderma which could become verrucous in their form. It did not depend on the gland below it. It was lymphatic or from some visceral focus.

DR. GOLDENBERG said it was probably a hematogenous infection and he would call it lupus verrucosus.



DR. MACKEE said he was under the impression that the first lesion was the one in the popliteal space and that it occurred as the result of local inoculation, and the others were either the result of autoinoculation or dissemination.

DR. HEIMANN said he did not see why tuberculosis verrucosa cutis in the original sense could not become the portal of infection for further cutaneous involvement. Tuberculosis verrucosa cutis could only be applied to the original lesion. We could not prove that it was autoinoculation, but it was likely to be so.

#### REPORT ON A CASE PREVIOUSLY PRESENTED by DR. TRIMBE.

Dr Rothwell said the laboratory report of the specimen from the side of the nose of the woman previously presented proved to be sarcoid.

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### NEW YORK ACADEMY OF MEDICINE, SECTION ON DERMATOLOGY

*Regular Meeting, May 7, 1918*

GEORGE M. MACKEE, M.D., *Chairman*

#### TUBERCULOSIS CUTIS. Presented by DR. MACKEE.

The patient, a man, aged 39, was from Dr. Fordyce's clinic. The disease began on the right side of the neck three years ago, later spreading to the left side of the neck and the back of the right hand. When presented, there were numerous ragged scars, resembling those seen in scrofuloderma, on both sides of the neck. In this scarred area there were areas of dark-red, infiltrated skin in which small discharging sinuses could be seen. On the back of the hand there was a well-margined, palm-sized, dark-red, thick, vegetating, somewhat verrucous lesion with some edema but no exudation.\*

#### CASE FOR DIAGNOSIS (PEMPHIGUS). Presented by DR. WISE.

Mr. F. H., a private patient, aged 44, single, born in this country, draughtsman by occupation, had been troubled by his eruption since 4 years. It began in the scalp in the form of seborrheic eczema, then spread to the chest and back. Itching had always been moderate. The patient stated that slight bruises were sufficient to cause an abrasion of the skin, which healed slowly. Sometimes small vesicles developed at the sites of bruises. On examination, the skin presented numerous nummular, crusted lesions, varying in size from  $\frac{1}{8}$  to  $\frac{1}{4}$  inch, scattered mostly on the back and chest, abdomen and buttocks. Pigmented areas and eczematous patches were present on the trunk. The patient stated that most of the lesions were preceded by "blisters." The scalp presented a seborrheic dermatitis. Treatment had been unsuccessful.

#### DISCUSSION

DR. POLLITZER said the suggestion made by Dr. Lapowski was well considered. The speaker thought some of the lesions looked like those seen in lichen corneus, but his objection to this was that he could not see any lichen papules. That which Dr. Lapowski referred to on the shoulders was not papular, but the remains of lesions which had left a shiny appearance. In

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\*Subsequent History: Biopsy showed the case to be one of tuberculosis. The hand lesion had disappeared under the influence of radium and the neck lesions were improving rapidly.



making a diagnosis it was important to consider the lesions in the axillae which were of the same character as elsewhere, including those on the scalp. The association of the condition on the scalp with the lesions in the axillae, and those on the trunk, suggested the possibility of Darier's disease. The lesions on the body well fitted in with this diagnosis as did the general distribution. There was a seborrheic condition on the scalp which the speaker said he had had a poor opportunity to examine. Darier's disease in the scalp commonly involved a large area and had the appearance of a seborrheic process. The lesions in the axillae favored Darier's disease. As to the vesicles which appeared occasionally on the patient's skin, these could not be brought into relation with Darier's disease nor with lichen planus. The man did not get spontaneous vesicles. He had a condition very much like epidermolysis. It was not the kind of process we observed in lichen planus and had no relation to Darier's disease. A biopsy would probably clear up the diagnosis.

DR. TRIMBLE said the case seemed to him to be one of seborrheic dermatitis, with slight warty formation in some lesions producing the so-called keratosis senilis; the same as we would see in an older person.

DR. HEIMANN said the opinions expressed by the previous speakers were those which he entertained. He had not examined the case closely and had not noticed the epidermolytic lesions. The lesions did not look like those observed in involuted epidermolysis. It was possible that these bullous lesions had nothing to do with the disease but were secondary manifestations. The fact that the patient had these lesions, and that they so readily were excoriated indicated that he scratched himself and that there was a certain amount of pruritus. In that case the hypothesis advanced by Dr. Lapowski would have some bearing. There was actually nothing to suggest lichen planus.

DR. TRIMBLE said he did not observe any vesicular lesions. He thought if the patient had such lesions they were independent of those on the chest.

DR. PISKO made a diagnosis of seborrheic eczema.

DR. WISE said he would submit a biopsy at the next meeting.\*

#### ACRODERMATITIS CHRONICA ATROPHICANS AND CARCINOMA.

Presented by DR. TRIMBLE.

The patient, a man aged 62, born in Ireland, presented on both legs, especially from just above the knees down to the toes, a purplish or bronzed, thin, crinkled skin through which the superficial veins of the legs showed plainly. The condition had been present about ten years according to the patient's statement.

Over the outer malleolus of the left ankle there was an area of about the size of the palm of the hand, made up of nodules in its border, cherry in size and a thick crusting over the central area. The lower leg condition had been present five years and gave no subjective symptoms. The Wassermann test and syphilitic history were negative.†

#### DISCUSSION

DR. POLLITZER said that there was no question as to acrodermatitis. There was, however, a question as to the nature of the tumor and the suggestion was made that it was blastomycosis, tuberculosis or epithelioma. These three things would have to be considered; he did not know of any other condition that would come into consideration. Against the diagnosis of blastomycosis was the fact that nowhere in the mass were there pustular lesions character-

\* Subsequent observation, with biopsy, proved this case to be one of pemphigus.

† The fungating lesion on the leg afterward proved to be an epithelioma.

istic of blastomycosis. On this fact blastomycosis, he thought, could be ruled out. Furthermore, blastomycosis did not make such voluminous tumors. The same thing applied to tuberculosis. The tumor was too large and firm for tuberculosis and infection was not apt to occur in an elderly man. On examination of the tumor a large mass was found which was rather firm and covered with a verrucous crust. The speaker thought the condition was either epithelioma or endothelioma, and the diagnosis would rest between these two.

DR. GILMOUR said he did not see any place that had broken down and he thought there would be some signs of breaking down with blastomycosis or tuberculosis. He thought the condition was epithelioma.

DR. HEIMANN thought it was epithelioma.

DR. TRIMBLE said they saw the case for the first time the day before presentation to the Section and the same things came to their minds as those expressed by the various speakers, in regard to the tumor formation. He said he would report on the biopsy at a later date. After a careful examination, the speaker said they favored malignancy rather than the other two diagnoses.

#### KERATOSIS OF THE MUCOUS MEMBRANE OF THE MOUTH.

Presented by DR. TRIMBLE.

The patient, a man aged 67, presented on the inside of the right cheek, covering fairly well most of its area, whitish papillomatous and wartlike elevations. Along the vermilion border of the lower lip there was a continuation of the same process, though very much drier and harder in character. Over the hard palate, patches, whitish in color, and small in size were present. The patient wore a plate for false teeth and was a smoker. The condition on the inside of the cheek was of one and one-half years' duration and that on the vermilion border of the lip about two months. The Wassermann test and syphilitic history were negative.

#### DISCUSSION

DR. TRIMBLE said the patient came under observation one week before presentation to the Section. The only test made was a Wassermann which was negative. The case was interesting on account of the keratosis on the lip which was definite and distinct. Following this along, a moist wart was encountered at the angle of the mouth; together with a leukoplakia of the buccal mucosa. There were also one or two places with wartlike formation in the leukoplakia area which were counterparts of venereal warts. Over the hard palate the condition looked like an ordinary case of leukoplakia. He was inclined to think the whole lesion one of mucous membrane warts—perhaps on a leukoplakia base.

DR. ROTHWELL said the patient told him he had never had a chancre.

DR. SATENSTEIN said it was the first time he had seen this condition in the mouth but that he had seen it in the vagina.

DR. POLLITZER said he felt that the opportunity of examination of this case was wholly inadequate. He did not see anything but the patient's mouth. It involved so large an area of the buccal mucosa that it was probably not local but was an expression of some systemic disorder. We had a form of intoxication that resulted in papillary changes in the mucosa, usually associated with pigmentary changes. In the condition that was called acanthosis nigricans the cutaneous and mucous lesions were due to the presence of a tumor in the abdominal cavity interfering with the functions of the splanchnic nerves, resulting in the development of some substance that caused the changes in the skin. It was conceivable that a lesser degree of an analogous process interfering with internal secretions, would result in the papular changes observed in this case. The speaker asked if an examination of the axillae

and groin had been made in this case to see if there were any changes. If there was any indication of a papular or pigmentary change in the regions referred to, the speaker should think it was the expression of an internal disorder of internal secretions in the region of the abdomen. A diminished or modified effect on the abdominal sympathetic might result in the relatively minor disturbance seen in this case.

DR. TRIMBLE said there was a wartlike lesion on one shoulder and also on the hip. There were no other lesions on the body.

#### CARCINOMA OF THE GENITALS. Presented by DR. MACKEE.

The patient, a man, aged 56, from Dr. Fordyce's clinic, exhibited an eruption on the penis, scrotum and pubic region, consisting of discrete and confluent, hard, dull-red, semi-translucent nodules, ranging in size from a pin-head to a silver quarter. In addition to the nodules in the skin there were numerous subcutaneous tumors that could be detected on palpation. The original tumor was in the testicle and was removed three months ago. The recurrence became manifest within a week or two.

#### LINGUA GEOGRAPHICA. Presented by DR. MACKEE.

The patient, a man aged 41, was from Dr. Fordyce's clinic. The patient stated that the eruption on the tongue had existed for about three weeks. It consisted of a scroll-shaped and annular arrangement of areas of slight infiltration, inflammation and exfoliation. The speaker felt certain that the contour of the lesions had changed because the outlines when presented were different from those in a photograph which was taken a week before presentation.

#### DISCUSSION

DR. HEIMANN said the margin of the lesions seemed to him to be infiltrated and he thought of syphilis and tuberculosis. He did not know that the Wassermann was negative. If it were tuberculosis of the tongue he would expect to find tubercle bacilli in the scrapings which would clinch the diagnosis.

DR. POLLITZER said he agreed with Dr. Lapowski. His impression was that the case was syphilitic and he should adhere to that diagnosis if it were not for the history. Lingua geographica did not mean much but was used to describe a superficial erosion of the tongue without any infiltration. There was decidedly an infiltrating process in this case. The lesions looked like those of the annular syphilid that was often seen about the mouth and chin. The history, if correct, would rule out syphilis. No annular syphilid would be present more than a few months and would not come and go. Syphilis after all was not simply a vascular change which would come and go. There was a distinct infiltration which was of more or less fixed character and would not go and return. The speaker thought the appearance of the lesions suggested syphilis; but he had never seen an annular syphilid of the tongue and the absence of any other evidence would in his mind, together with the long history, rule out syphilis.

DR. PISKO said he had seen a number of cases of annular lesions of the tongue. In less than two weeks they would coalesce and on the tip of the tongue would show a marked change.

DR. MACKEE said he presented the history as the patient gave it. The eruption was much more marked on the evening of presentation than it was when he last saw it. The speaker thought there were new lesions and different configuration. The patient also had stomatitis.



## XANTHELASMOIDEA WITH XANTHOMA PALPEBRARUM. Presented by DR. ROSEN.

The patient was a child, 1½ years of age, born in New York City, the youngest of three children. None of the other children had a similar or any other skin affection. The mother noticed the eruption when the child was 3 months old. The first appearance was on the abdomen with urticaria-like lesions. After a few weeks the redness disappeared, leaving brownish-yellow nodules. When seen at Mt. Sinai Hospital the patient presented discrete, small and large nodules on the eyelids, face, neck, chest, back, abdomen and lower extremities. Friction would bring out an urticarial wheal. New lesions were constantly appearing, while the older ones did not involute. The interesting feature of this case was the xanthoma palpebrarum in so young an infant.

## LUPUS ERYTHEMATOSUS. Presented by DR. GILMOUR.

V. E., aged 27, a married, white woman, born in Italy. Three and one-half years ago a small red area developed in the frontal region, about an inch back of the hair line, with loss of hair. This was about an inch in diameter. Since that time other patches appeared on the sides of the scalp near the brow. There were six patches in all, about three-quarters inch in diameter. The last one appeared six months ago. These patches were thin scar tissue, red in the center and rather lighter in color at the sides. There was practically a complete loss of hair over each patch. There was no active process to be noted, when the case was presented, except for a very slight scaling in some places over the patches. The patient had never noticed any scabs since the process began.

## ICHTHYOSIS HYSTRIX. Presented by DR. TRIMBLE.

The patient, a woman, aged 25, presented on the lateral surfaces of the extremities, the usual fish scales or ordinary ichthyosis. Also over the elbows and knees the black or brownish thickened cuticle of the hystrix variety. The condition had been present since childhood.

## EXTENSIVE BILATERAL LINEAR NEVUS. Presented by DR. MACKEE.

The patient was a girl, aged 13, from Dr. Fordyce's clinic. The history of the development of the eruption was unsatisfactory. The patient claimed that it had existed for six years. The eruption consisted of broad bands of hyperkeratotic and verrucous skin with numerous scaly patches, split pea to silver dollar in size, arranged in linear formation, and resembling psoriasis.

## PSORIASIS OR SEBORRHEIC ECZEMA (?). Presented by DR. ABRAMOWITZ.

I. L., aged 63, woman, had had the condition four weeks. There was no history of psoriasis in the family. The eruption was in the usual location for psoriasis, but the scaling was hardly noticeable and was accompanied by considerable itching. The patches were palm-sized. The speaker favored the diagnosis of psoriasis.

## DISCUSSION

DR. WEISS said the spots on the elbow were psoriatic and those on the chest seborrheic. Frequently such cases presenting features of both disease were met with and called the psoriatic form of seborrheic eczema.

DR. HEIMANN considered the case to be psoriasis.

DR. ROTHWELL said he thought a definite diagnosis could not be made.



NEW YORK ACADEMY OF MEDICINE,  
SECTION ON DERMATOLOGY*Regular Meeting, Oct. 1, 1918*GEORGE M. MACKEE, M.D., *Chairman*

## NEVUS UNIUS LATERALIS. Presented by DR. REMER.

H. K., aged 20, was from Dr. Fordyce's clinic. The lesions consisted of linear patches covered with thick grayish-yellow scales. Except for the back of the neck, the lesions were limited to the right side of the body and extended—with interruptions—from the scalp to the toes, being most marked on the buttocks and thighs.

## DISCUSSION

DR. SCHEER said the interesting feature about this case was that there were lesions on both the left and right sides of the neck.

## LUPUS ERYTHEMATOSUS. Presented by DR. ABRAMOWITZ.

G. M., a girl, aged 13, born in the United States, presented herself at Dr. Fordyce's clinic with dime-sized scaly patches on the nose, cheeks and behind the ears, of one year's duration. She also had a patch within the helix of the left ear and a linear scar under the right jaw. The Wassermann reaction was negative.

## DISCUSSION

DR. ABRAMOWITZ said the only unusual feature in regard to this case was the youth of the patient; she was 13 years old. At the time of presentation to the Section she was under the care of another physician who thought the condition was syphilitic because he had given the child mercury rubbings and the lesions had improved. This was of no significance to the speaker, as lupus erythematosus improved, occasionally, under the administration of mercury.

## LUPUS ERYTHEMATOSUS. Presented by DR. ROTHWELL.

The patient, a white, married woman, aged 25, when first seen one week previous to presentation, had on the left side of the nose an area resembling in appearance a vesicular dermatitis, about 1 inch by  $\frac{1}{2}$  inch; back of the right ear, a typical atrophied old patch; and on the outer side of the arms, various small marble-sized nodules with apparent atrophy over the surface of several. The nose lesion was two years old and the arm lesions had been present only a few weeks.

## DISCUSSION

DR. MACKEE suggested that, on account of the deep scarring, the lesions on the arms might be sarcoid.

DR. ROTHWELL said he would try to get a piece of tissue from the arm and if he obtained a report he would make it known at the next meeting of the Section.

## XANTHOMA. Presented by DR. REMER.

E. S., aged 2, was from Dr. Fordyce's clinic. The entire body, with the exception of the palms and soles, was covered by an eruption which consisted of discrete, yellowish lesions varying in size from a pinhead to split pea and slightly elevated. The lesions were soft to the touch and were round or oval and smooth, the larger lesions being corrugated. A few showed a slight central depression. Those on the lower extremities were darker than the others. The urine examination was negative for sugar.

## DISCUSSION

DR. BAILEY said the tests of the patient's urine for sugar gave negative results and an examination of the blood by Dr. Vogel showed both the sugar and cholesterin contents to be well within normal limits.

**SCLERODERMA IN BANDS.** Presented by DR. ABRAMOWITZ.

E. G., a girl, aged  $7\frac{1}{2}$ , was from Dr. Fordyce's clinic. She presented a very slight erythema and scaling extending from the dorsum of the left foot along the shin to the knee, which was slightly swollen. The skin over the dorsum of the left foot and shin was definitely hide-bound.

**EXTENSIVE PIGMENTED NEVUS.** Presented by DR. LANE.

The patient, A. S., was a Greek, aged 20. He had two large pigmented nevi. One covered the anterior surface of the chest above the nipples and the anterior surface of the arms. The other covered the left buttock, thigh and upper half of the leg.

## DISCUSSION

DR. WEISS said the diagnosis of nevus was made on a good basis. On the left side of the chest there were a few tufts of long, coarse hairs like those found on hairy nevi, while the right side was devoid of hair. The case presented a flat, partially hairy nevus covering a large area.

DR. ROTHWELL thought it was a nevus.

DR. HEIMANN said the diagnosis hinged on the question of the history. When that was settled it would or would not be a nevus.

DR. MACKEE asked Dr. Heimann if he did not think it were possible for a nevus to develop in adult life and be progressive.

DR. HEIMANN said he thought it was possible for a nevus to develop in adult life and progress. This was so extensive a lesion, the speaker said, that he could not conceive of its being present and involving two-thirds of the surface of the man's body and not have other signs of malignancy. An analogy was infectious nevus. This was an inflammatory condition—not really a nevus. The speaker said he had never seen a nevus become as extensive as this and develop in a man's adult life. In babies he had seen the condition start after birth and progress. He said he should not care to deny the possibility made by Dr. MacKee's question. He was not in favor of Dr. Lapowski's point of view. Recently as good an author as Darier had stated that he was in favor of some nevi being present at birth and others developing later from congenital deposits. It depended on how broadly the term nevus was interpreted. The speaker suggested using the term congenital anomaly. He said if he were asked to define nevus he would say that it was a congenital anomaly in which nevus cells were present.

DR. OULMANN said the history was not in favor of a nevus. A pigmentation, which was progressive, could not be called a nevus. The progress of pigmentation took a number of years. The patient lived in a subtropical country (Greece) and the sun might be connected with the skin condition. The speaker said he would consider it as hyperpigmentation.

**TUBERCULIDS OF THE FACE (LUPUS ERYTHEMATOSUS AND SCARS OF ACNITIS).** Presented by DR. LANE.

C. H. C., a man, aged 24, had a number of fairly typical acute lesions of lupus erythematosus on the face, and also a number of scars of previous acnitis. The lymph glands of the right side of the neck and of the right side of the axilla were greatly enlarged. The diagnosis of this condition was in doubt. Roentgenographic examination, blood picture, and sections of an

excised gland did not have a picture typical of either tuberculosis or Hodgkin's disease. The von Pirquet tuberculin test was very strongly positive. The Wassermann test was negative.

## DISCUSSION

DR. LANE said that he had probably not been clear in the presentation of the case as Dr. Wise thought it had been presented as acnitis. He had used the term tuberculids to include both the lupus erythematosus, which was the evident lesion, and the less evident scars of the nearly healed acnitis.

## EPITHELIOMA OF THE NOSE. Presented by DR. SCHEER.

A. S., a man, aged 66, from Dr. Fordyce's clinic, presented a lesion on the nose. It began as a senile keratosis on the tip of the nose. He also had keratoses on both cheeks, adjacent to the nose. The lesion on the nose was the size of a silver half dollar, occupying the lower half of the nose in front, circular in shape, raised, with a sharply defined border of waxy consistence, with rolled edge. The interior of the nose was deeply ulcerated and sloughing.

## GUMMA OF THE NOSE. Presented by DR. ROTHWELL.

The patient was a man, aged 33, born in Austria. He presented tumefaction of all the cartilaginous tissue of the nose so that the organ was three times what would be considered normal size. The infiltration had broken down on the front of the nose and formed a pea-sized, shallow ulcer with purplish edges. The condition had considerably improved on only one week of antisyphilitic treatment. There was no history of primary or secondary manifestations. The Wassermann test was plus-minus. The duration of the condition was six months.

## DISCUSSION

DR. ROTHWELL said they had seen the patient five weeks prior to presentation to the Section and their clinical diagnosis at that time was that of a large gumma of the nose. They suggested to the nose and throat specialist who brought the patient to their department, that the patient be given arsphenamin and potassium iodid with mercury. After the patient had had this treatment he was brought back to the skin department at which time the ulceration was present. On account of the ulceration and the fact that they had made a diagnosis of gumma when they first saw the patient, they thought the patient had an ulcerative gumma and gave him one arsphenamin injection and one bottle of mixed treatment. At the end of a week the condition had improved 25 per cent. On this account they felt that their diagnosis was correct. The speaker said the diagnosis of rhinoscleroma had not occurred to him, but when it was suggested by one of the members, he felt the patient's nose and was impressed with the hardness of the tissues. The patient had agreed to take more treatment and if he continued to improve at the same rate in the next four weeks they would show the case again.

## ELEPHANTIASIS OF THE PENIS. Presented by DR. REMER.

J. S., a man, aged 42, born in Italy, was from Dr. Fordyce's clinic. He gave a history of having had a chancre eight years ago. He was given one arsphenamin injection and mercury biniodid internally for six years. Two years ago he had a prostatic abscess and sixteen years ago a herniotomy was performed and one testicle was removed. A sudden swelling of the penis developed two years ago and had been present since. The Wassermann test two years ago was four plus. The penis, at the time of presentation to the Section, was enlarged and indurated with intense edema of the foreskin.



## DISCUSSION

DR. HIGHMAN said the diagnosis seemed to conform with the textbook description. All that elephantiasis meant was that there was connective tissue proliferation with lymphedema. The patient gave a history of an itching eruption and the skin was thickened. The speaker said he agreed with the diagnosis as presented.

DR. WEISS said that it seemed to him that the condition might be a sequence of traumatism. It was a well-known fact that after enucleation of inguinal glands, elephantiasis of the adjacent parts followed. The same condition might prevail after accidental severing of lymph channels. He had shown a woman at the Manhattan Dermatological Society who had had a right-sided herniotomy followed by an elephantiasis of the right labium majus and the right thigh. On the right thigh there were sinuses through which almost 1 pint of lymph would exude. Then the flow would stop to recommence in a few days. The limb consequently became alternately bigger and decreased in size. There was a similarity in these two cases and the speaker said he thought that the lymph channels had been damaged in both patients during operation and an elephantiasis developed.

PEMPHIGUS (Presented at preceding meeting). Presented by DR. WISE.

F. P., aged 44, a man, a native of this country, was a draughtsman. His general health was good and his personal and family histories were negative. The Wassermann reaction was negative.

The eruption was of four years' duration and affected the entire body, chiefly the scalp, chest and back. It consisted of numerous scabs, the results of many broken down vesicles and bullae. The mucosa and genitalia were free. Itching was moderate. The patient was previously presented before the May, 1918, meeting.

## DISCUSSION

DR. WISE said this patient should have been presented with a question mark after "pemphigus." The history of the development was that the lesions became crusted as seen on the chest and back. There was very little itching. There were no lesions on the mucous membrane or genitals. The course of the disease was progressive; there was an appearance of vesicles and bullae which developed into crusts and dropped off, sometimes leaving scars. A biopsy had been made from a spot on which there was a bulla. The infiltration developed after the formation of the crust. This was the last stage of formation of the lesions.

DR. HIGHMAN said it was a bullous eruption and he remembered that when the case was presented before, the diagnosis suggested was the same. Clinically, there was infiltration and the speaker said he would be surprised if under the microscope there was no infiltration. He had an idea of vegetative dermatitis. He did not remember much about it. This was a vegetating process and he could not understand why it should vegetate at sites where it was not usual to find this condition. He wondered if the ingestion of drugs had been excluded as this might account for the entire picture. It did not look like anything that he had seen described as pemphigus.

DR. MACKEE said that traumatic bullae and Nikolski's sign would preclude the possibility of dermatitis medicamentosa, a diagnosis suggested by previous speakers. The eruption appeared to correspond to a series of cases reported in the last ten years in which there were symptoms of pemphigus, epidermolysis bullosa and, sometimes, erythema multiforme.

DR. WISE said it was of interest to relate the fact that the patient had had fourteen injections of autogenous serum and since that time there was less tendency toward the formation of bullae. The lesions did not get better without treatment.



## TUBERCULID. Presented by DR. ABRAMOWITZ.

A. P., a man, aged 22, born in Charleston, S. C., was from Dr. Fordyce's clinic. He gave a history of having had a blister on his face, associated with fever, sixteen years ago. He denied smallpox. At the time of presentation the entire face presented a mottled appearance due to scarring and pigmentation. The extremities presented scars and pigmented areas, and a few lichenified papules and occasional vesicles. The trunk presented punctate and also larger oval scars. The Wassermann test was negative.

## SERPIGINOUS SYPHILID. Presented by DR. ABRAMOWITZ.

M. W., woman, aged 27, colored, and born in the United States, presented herself at Dr. Fordyce's clinic with an extensive eruption on the upper and lower extremities and trunk, of nine months' duration. In the lower part of the axilla there were three or four lesions, circular, and consisting of a central depigmented area and small lichenoid papules at the peripheries. These united and formed large patches, circinate in outline. On the forearms the eruption was profuse and pigmented; in some places the patches were arranged in a circinate and serpiginous manner. The palms were scaly. The left side of the abdomen showed two circinate lesions. The buttocks and legs showed extensive scaly, papular and serpiginous eruptions. Scrapings for tinea were negative. The Wassermann was four plus. The biopsy showed a typical syphilitic picture. There was no sign of lichen planus.

## DISCUSSION

DR. WISE stated that he had carefully studied the eruption in this patient and concluded that it was an uncommon form of serpiginous and lichenoid syphilis. The biopsy and the positive Wassermann reaction strengthened this view. The microscopic picture showed no changes referable to lichen planus. An attempt would be made to present the patient for further observation at the next meeting.

## LEUKOPLAKIA. Presented by DR. PAROUNAGIAN.

J. M., a man, aged 39, born in the United States, was a conductor by occupation. His father died at the age of 37 of pneumonia; his mother was living, also two sisters and one brother. He stated that he had had a chancre about nineteen years ago for which he had about six weeks' local treatment. He did not recall having any secondary manifestations. He was a heavy smoker but a moderate drinker. His tongue and mouth condition began about ten years ago. The dorsal surface of the tongue exhibited a whitish-gray eruption, as well as the inner surface of the cheek at the angles of the mouth. He did not complain of subjective symptoms, only that smoking irritated the condition. Two Wassermann tests were made with negative results.

## DISCUSSION

DR. PAROUNAGIAN said he presented the case with the idea that the man had syphilis because he gave a history of having had a chancre nineteen years ago. However, two Wassermann tests had been negative; the second was made five weeks prior to presentation to the Section. The speaker said he had seen a number of leukoplakia cases and had made Wassermann tests and nearly all of them were positive. He was beginning to regard these cases as being due to a syphilitic condition. He was tempted to give this patient arsphenamin but was advised by his colleagues that it was apt to cause malignancy. He said he would like to know what should be done with these cases. If they were left alone they were apt to be burned by caustics, by some one else. In spite of the negative Wassermann test, was he justified in giving this patient arsphenamin?

DR. LANE said that not enough of these cases had been treated since the introduction of arsphenamin to prove whether it would do more than the older treatments. He was of Dr. Parounagian's opinion that arsphenamin should be used, perhaps in combination with or followed by injections of calomel.

DR. WISE said he thought the condition was due to syphilis. He did not think, however, that arsphenamin would cure it. Radium was considered to be the best remedy for leukoplakia.

DR. HIGHMAN said that the leukoplakia was the least essential condition. The patient had a syphilitic interstitial glossitis. He did not think the negative Wassermann had any significance. He had never seen systemic treatment make as extensive a process as shown in this case disappear, because the scars were permanent and the mucous membrane secondarily thickened. If this same condition were on the skin it would be called hyperkeratosis. As to systemic treatment, the history of leukoplakia of syphilitic origin was four hundred years old and the history of the influence of arsphenamin on such conditions was nine years old. We knew that leukoplakia of the tongue untreated, would go on to cancer, and all this talk of arsphenamin hastening cancer of the tongue was nonsense. He had no experience to lead him to conclude that leukoplakia became cancerous more frequently after arsphenamin than without it.

DR. OULMANN said that he was of the opinion that not every leukoplakia was of syphilitic origin, even if most cases were. This condition was seen in heavy smokers without every one being syphilitic. It was certainly advisable to give arsphenamin in doubtful cases. The effect on the leukoplakia was mostly not encouraging.

DR. HIGHMAN said he tried to point out that the incidence of cancer after leukoplakia had not increased since arsphenamin had been introduced. He said he did not see that arsphenamin should be stigmatized as a scare-crow in this condition.

DR. CHARGIN said his experience was that antisyphilitic remedies did not improve true leukoplakia. If there was an underlying accompanying active syphilitic process, such process was, of course, benefited by antisyphilitic remedies. The speaker said he had seen a great number of cases, and had treated a great many, but had never seen a single case disappear under any form of treatment. In regard to etiology—he felt that practically all leukoplakias were syphilitic in origin. He had observed only one case in which he was unable to make out a history of syphilis. Leukoplakia developed in syphilitics as a result of chronic irritation to the mucous membranes, and heavy smoking especially was responsible for the majority of cases. He had recently had occasion to observe leukoplakia in women. At the Riverside Hospital he had under his care some seventy-five to eighty prostitutes who, as is well known, are quite heavy smokers, and four or five out of the sixty that were under treatment for syphilis, showed leukoplakia either on the lips, cheeks or tongue.

DR. LAU said he had seen cases of leukoplakia and could not help thinking how almost useless antisyphilitic treatment was in cases of this kind. He had the opportunity to witness a large number of cases cleared up by McDonagh in London by a sulphur compound called "intramine." He had seen the cases before and after treatment. The surface of the tongue was perfectly clean after treatment, leaving only a superficial scar. He had a patient under treatment who had a four plus Wassermann reaction and there was no question of the leukoplakia being any but of syphilitic origin. A course of mixed treatment was administered but there was no appreciable result. One must give McDonagh credit for clearing up his cases with intramine. It was an emulsion, the base of which was sulphur. The reaction was very

severe, not only generally, but locally, and it was hard to get patients to take second and third injections. The speaker said he had tried to get the preparation here but was unsuccessful.

**EPITHELIOMA.** Presented by DR. TRIMBLE.

The patient, a white woman, aged 57, presented on the external aspect of the left leg, midway between the ankle and knee, a brownish colored area of superficial infiltration, circular in shape, about the size of a quarter dollar, sharply margined and very slightly elevated at the border, with two small (pea-sized) spots of abraded surface in the center of the lesion. There was an elevation of the whole patch above the level of the uninvolved skin, but of only slight extent.

According to the patient's history the lesion had been present two years and had begun as a small "pimple" which she had scratched, although the itching at all times had been inconsiderable. The Wassermann test was negative. According to the biopsy the report was that the "corium was invaded by nests of basal cells."

DISCUSSION

DR. HEIMANN said that clinically the case did not suggest epithelioma. It looked like squamous dermatitis, or psoriasis; the scales of which had been scratched off. He was at a loss to interpret the microscopic findings. If this description was accepted there was no question but what the case was a clinically atypical epithelioma. The suggestion was made of the possibility of Paget's disease. The presence of epithelial cells below the epidermia was not proof of the presence of epithelioma. The sections might have been cut obliquely and the bulbous pegs of a possible psoriasis might give rise to cell nests roughly simulating epithelioma. An exhaustive study should be made before venturing to call this condition epithelioma.

DR. MACKEE said that he was unable to make a clinical diagnosis in this case. It did not have the appearance that one would expect to find in a superficial epithelioma—the usual rolled edge was wanting. Instead, there appeared to be an area of inflammation in which there were several discrete nodules. The speaker agreed with the remarks made by Dr. Heimann relative to the possibility of error in the histologic findings, and he hoped that Dr. Rothwell would exhibit a histologic specimen at the next meeting.

DR. ROTHWELL said that this patient was treated for a couple of months as a case of eczema with a 6 per cent. salicylic salve which did no good. Dr. Trimble was away on his vacation and they were not very enthusiastic about the results so when he came home he suggested a biopsy. The speaker said he thought the only word received was that the "corium was invaded with nests of basal cells." He would tell Dr. Trimble of the suggestion made by Dr. Heimann and would have the patient presented again.

DR. WISE looked on the lesion as an ordinary superficial, plaquelike epithelioma without rolled or pearly edges, of which type he had met with numerous examples, chiefly on the backs of old men.

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**MANHATTAN DERMATOLOGICAL SOCIETY**

*Regular Meeting, Oct. 8, 1918*

PAUL E. BECHET, M.D., *Chairman*

**KRAUROSIS VULVAE.** Presented by DR. WEISS.

The patient was a married woman, aged 60, who had had eight children and no miscarriages. The condition from which she suffered began three years ago as a pruritus vulvae. Continual scratching had caused a chronic



inflammation and changes in the corium with dark pigmentation and thickening of the skin. The examination of this patient on the evening of presentation showed the labia minora and majora to be dry, hardened and white, resembling leukoplakia. The condition extended along the fourchet, perineum and up to the nates as a white discoloration, simulating leukoderma.

## DISCUSSION

DR. WISE agreed with the diagnosis and said he understood that the best treatment for this condition was roentgen-ray administration.

DR. MACKEE said that the roentgen ray was not usually successful in these cases, but it seemed to be the only treatment with the exception of an extensive plastic operation.

DR. WEISS said the condition of thickening and lichenification of the mucous membrane with dryness and fissuring was the consequence of the itching and scratching. He agreed with Dr. MacKee regarding the roentgen-ray treatment. The patient had had several exposures without improvement. He had also applied the high frequency current but it was too soon to tell the result of this treatment. Heitzman's case, quoted by Stelwagon, was cured by curetting, followed by the application of a 0.5 to 2 per cent. acid solution, alternating with pyrogallol solution of the same strength. It was the only case on record that was completely cured. The speaker said he would try this application and present the patient again. He again emphasized the pruritus as an etiologic factor.

DR. MACKEE said he might have misunderstood; if not, the preceding remarks were misleading. Kraurosis began with pruritus. One making an examination was apt to think it began with pruritus and the thickening was a result of the scratching. All this thickening, leukoplakia and atrophy was due to the disease and not to the pruritus. There must be something more than a simple inflammation on account of the frequency with which epithelioma developed.

DR. WEISS said in all their cases the French authors mentioned pruritus as the etiologic moment of kraurosis and leukoplakia of the vulva. Other etiologic factors might exist but they were unrecognized as yet.

EPITHELIOMA. Presented by DR. PAROUNAGIAN.

The patient was a police sergeant, aged 60, who had had a fall from a car fifteen years ago which resulted in injury of the left side of the face at the end of the eyebrow. The lesion at the time of presentation was silver-dime sized with pearly edges and was indurated and bled readily. It would heal and break down. The condition was presented as an epithelioma.

## DISCUSSION

DR. PAROUNAGIAN asked which would be the best treatment; excision, the Sherwell method, the roentgen ray or radium.

DR. MACKEE said every one would differ as to how such a lesion should be treated. He would curet it and give one intensive dose of roentgen-ray or radium and that would effect a permanent cure, but it could also be cured by using the Sherwell method. This was a lesion which was amenable to any treatment but it must be radical. Obviously, there could be no better method than that of excision, providing the entire growth were completely removed. The roentgen ray, when properly employed, gave equally good results. Surgical statistics, compiled by Hazen and by Bloodgood, gave a percentage of 86 for permanent cures in unselected cases. The speaker's statistics, based on the intensive roentgen-ray treatment of about 300 unselected cases, gave a percentage of 85 for permanent cures. From a stand-



point of statistics, therefore, there was no choice. It was a question, then, of location, convenience, ability, etc. In epitheliomas that could not be excised or that were not suitable for roentgen ray or radium therapy, Sherwell's method of thorough curettage and thorough application of the acid nitrate of mercury would effect results that neither of the other methods could produce.

DR. BECHET said that he agreed with Dr. MacKee. He believed that untoward results, such as recurrences, etc., were due to lack of thorough removal of diseased tissue, rather than to any inherent fault of any one method of treatment. The roentgen rays, excision, curettage and cauterization, were equally valuable if thoroughly made use of. Total destruction was the key to success in the permanent removal of these malignant growths.

#### SCLERODERMA. Presented by DR. WISE.

The patient was a boy, aged 9, from Dr. Fordyce's clinic. He presented a patch of depigmented and hardened skin, extending from the root of the nose up over the left brow and forehead, to the occiput. The duration of the trouble was one year. The lesion was sharply defined and of the linear type of scleroderma. He was receiving one-fifth grain of thyroid extract, three times daily, but had been under observation but one week.

#### DISCUSSION

DR. WEISS agreed with the diagnosis. He suggested giving one-sixth grain of thyroid daily.

DR. WISE asked Dr. Weiss how long it would be before he obtained results from the thyroid extract.

DR. WEISS said he would expect to get results in about six months.

DR. WISE asked what the indications were for the use of pituitary extract in this case.

DR. WEISS, in answer to Dr. Wise's question, said that thyroid was indicated in accordance with the "markings" of the patient.

DR. PAROUNAGIAN asked if it was essential that the alimentary canal be prepared before giving thyroid.

DR. WEISS said that thyroid would work without having the alimentary canal prepared. Such a course, however, is never contraindicated.

#### ANGIOMA SERPIGINOSUM. Presented by DR. ROSEN.

The patient was a woman, aged 36, born in Russia. The family history was negative. She said the eruption began ten years ago on the forehead, near the eyebrows, and spread until it involved the forehead up to the hair line, the eyebrows, sides of the face, cheeks, down to the jaw and the vermilion border of the lip. The lesions consisted of a reddish, noninflammatory base with telangiectasia and small blood vessels, pinpoint to pinhead in size. The papules were vascular and in running the finger over areas would give the sensation of a nutmeg grater. There were atrophic areas throughout the lesions. The ears presented scaling like that of lupus erythematosus.

#### DISCUSSION

DR. WISE said it would give him pleasure to agree with the diagnosis as presented but he could not, as there were no lesions of angioma serpiginosum to be seen. The lesions of angioma serpiginosum were pretty well-defined, raised, telangiectatic, with distinct vascular dilatations. The patient presented a condition which it was difficult to diagnosis correctly. He was inclined to call it *ulerythema ophryogenes*.

DR. MACKEE could not agree with the diagnosis of angioma serpiginosum. The telangiectasia, the cayenne-pepper spots and the configurate lesions of that disease were absent in Dr. Rosen's case. The eruption seemed to consist of tiny papules or pseudopapules situated in the follicular orifices. An eruption of this kind, when acute, might represent a dermatitis due to an external irritant, and when occurring on the trunk it would suggest the so-called prickly heat. A long standing eruption, possessing these features, would suggest something in the nature of keratosis pilaris, monilethrix, etc. The history was unsatisfactory as the patient did not seem to know whether the "nutmeg grater" effect was of recent origin or of long duration. The speaker thought that the diagnosis of ulerythema ophryogenes, as suggested by Dr. Wise, should be seriously considered. This affection occurred, not only on the eyebrows, but sometimes on the cheeks and even the arms.

DR. WEISS said he agreed with the diagnosis of ulerythema.

DR. ROSEN said he could not understand the diagnosis of ulerythema ophryogenes. To his mind the case was unique and in looking over the literature it had points in favor of the diagnosis of angioma serpiginosum. Two important points were pinpoint spots and in some areas raised vascular papules. There was also redness, slightly raised papules and a delicate net work of blood vessels, pigmented lesions, atrophic spots, pinhead vascular papules with telangiectasia. On the side of the face of this patient there were distinct atrophic linear areas. The upper lip showed symmetrical angiomatous involvement. It was not—the speaker said—ulerythema ophryogenes in his opinion. There was no scarring, nor follicular involvement; the eruption was non-inflammatory, with a distinctly vascular base and not the slightest evidence of previous ulceration nor scaling.

EPITHELIOMA. Presented by DR. PAROUNAGIAN.

The patient was a woman, aged 58, born in Russia. She had had the lesion on the upper lip over one year. The lesion was the size of a pea, had pearly edges and was indurated. The case was presented as epithelioma.

#### DISCUSSION

DR. PAROUNAGIAN said no biopsy had been made so he was not prepared to say whether this case was a basal cell or squamous cell epithelioma. He would make a microscopic examination after he cut the lesion out. He presented this case as he thought it was not common to see this condition on the upper lip of women.

DR. BECHET said that it seemed to him that the epithelioma had begun on a nevoid growth near the vermilion border of the lip, and that it had spread to the mucous membrane by continuity of tissue. It did not resemble in appearance the usual rodent ulcer type with rapid progress, usually seen on the male lower lip.

DR. MACKEE considered the epithelioma to be of the basal cell type because it had begun on the skin and involved the mucosa secondarily. Basal cell epitheliomas rarely if ever occurred primarily in the mucous membrane.

EPITHELIOMA ON A SYPHILITIC BASE. Presented by DR. OCHS.

The patient, a man, aged 51, presented a lesion behind the right ear which had been present three years. The speaker saw the case for the first time two weeks before her appearance at the meeting, at which time there was an ulceration with sharply defined pearly edges which he thought was a combination of syphilis and epithelioma. He had given the patient mixed treatment under which he had improved. The patient had a flattened nose which was the result of an operation twenty-five years ago, at which time, the patient stated a "dead bone" was removed.

## LICHEN PLANUS ANNULARIS AND ULCERS OF THE LEG. Presented by DR. WISE.

The patient was a Montenegrin, aged 32, unmarried. He presented two types of lesions—lichen planus annularis of the glans penis and right side of the abdomen, and ulcers of the leg. The latter lesions were shown for diagnosis. The lichen planus had been present three months and the ulcers of the leg for two years and eight months. The Wassermann test was repeatedly negative. He had had a large number of arsphenamin treatments without improvement of the ulcers. The leg ulcers were situated on the lower calf; they were sharply defined, deeply sunken, sluggish ulcers; and resembled gummata in every respect. There were associated varicosities of the affected leg.

## DISCUSSION

DR. OCHS said he regarded this case as one of lichen planus and the patient probably scratched the lesions and caused the ulcers to develop.

DR. ROSEN said the ulcerations could not be due to the scratching as the lichen planus lesions had been present only three months, but the ulcers had been present two years and eight months.

## LUPUS ERYTHEMATOSUS. Presented by DR. WISE.

The patient was a colored man, aged 35, who had lesions on the cheeks, scalp and ears which had been present one year and three months. The interesting feature was that he had had no expert treatment, but had treated himself and kept the condition at a standstill. The lesions on the ears still showed slight ulceration, but the dollar-sized patch on the cheek had healed. The speaker said lupus erythematosus in the colored race was relatively uncommon in his experience.

## DISCUSSION

DR. OCHS said he had seen a number of cases of lupus erythematosus in the colored race. There was no question about the diagnosis in this case.

DR. BECHET said that he had occasionally seen cases of lupus erythematosus in the colored race. He was impressed by the fact that every one of the cases observed were very extensive, certainly just as much, if not more so than in Dr. Wise's case. He asked Dr. Ochs if his observations in the clinic, where he saw many negroes, were similar. The well known fact that tuberculosis was so common in the black race, and that so many negroes presented severe types of lupus erythematosus, might be an added factor to the tuberculous theory in the etiology of the disease.

DR. OCHS said that this disease in the colored race was more extensive than in the white race. He had presented a case in which the lesions extended entirely over the nose and back of the ears, being the nodular form back of the ears.

## PSEUDO ELEPHANTIASIS. Presented by DR. WISE.

The patient was an Italian, aged 43, from Dr. Fordyce's clinic. He had a chancre seven years ago and shortly after received one injection of arsphenamin and then treatment with mercury by mouth. He was operated on sixteen years ago for rupture and had a scar in the right groin. Two years ago he developed eczema of the scrotum which resulted in thickening and exudation. Since the past year the penis was greatly swollen and edematous. The swelling affected the entire shaft, as well as the glans. The organ was distinctly indurated and rigid. There was little pain, but a great deal of discomfort. He also gave a history of an abscess in the prostate, one year ago.



## LUPUS VULGARIS ON A SYPHILITIC BASE. Presented by DR. GILMOUR.

The patient gave no history of syphilis, but the Wassermann test was ++++. He had an operation on the glands at the angle of the jaw, on the right side, seventeen years ago, and sixteen years ago an eruption behind the right ear which healed as it gradually extended. It left a superficial scar. At the time of presentation there was a red lesion extending over the posterior lobe of the ear to its anterior surface on the inside of the ear. There was slight crusting. A more active infection was seen extending 1 inch below the tip of the ear and near its lower surface there were a few typical apple jelly tubercles. The patient had been treated with the Alpine lamp and there was some improvement. He had had active treatment for his syphilis by diarseno-benzol (arsphenamin) and mercury salicylate by hypodermic injection.

## LEUKOPLAKIA. Presented by DR. PAROUNAGIAN.

The patient, J. M., a man, aged 39, conductor by occupation, was born in the United States. His father died at the age of 37 of pneumonia. His mother was living, and he had two sisters and one brother. He gave a history of having had a genital sore about nineteen years ago for which he received six weeks' local treatment. He could not recall having any secondary manifestations whatever. He was a heavy smoker and a moderate drinker. His tongue and mouth condition began about ten years ago, consisting of whitish gray patches on the dorsum of the tongue and inner aspects of the cheek which were most marked at the angles of the mouth. He did not complain of any pain or discomfort; only that smoking irritated the condition. Two Wassermann tests were made by the speaker which were negative.

## DISCUSSION

DR. PAROUNAGIAN said that nearly all cases of leukoplakia which came to his notice gave positive Wassermann reactions; therefore, he came to the conclusion that syphilis was the etiologic factor, as all heavy smokers do not have leukoplakia. His main object in presenting this patient was to get the views of the members as to whether or not he was justified in administering arsphenamin to this patient as he was familiar with the opinions of some of his colleagues, who believed that the administration of arsphenamin in such cases was apt to hasten carcinomatous degeneration. The speaker cited two cases of leukoplakia of known syphilitic origin to whom he had given arsphenamin with good results. However, in this particular case, the question of syphilis had not been clearly established. The patient had no secondary manifestations, no treatment and the Wassermann test was negative.

DR. OCHS said he presented a case of nonspecific leukoplakia in a patient. Some one guaranteed this patient a cure and after the second dose of arsphenamin his tongue swelled up and ulcerated and it took all they could do to stop the ulceration. The speaker said he believed that if this patient had any more arsphenamin it would have resulted in a cancerous condition. Today his tongue was in bad condition due to the aggravation from arsenic. The speaker said he would advise Dr. Parounagian to leave the patient's tongue alone. Keep it cold and give him nothing to irritate it. Radium might have the same effect as arsphenamin, as both were irritating in their action. Nonspecific leukoplakia should not be treated with arsphenamin.

DR. MACKEE said he could not share the fears expressed by the previous speaker. Leukoplakia was not epithelioma but was pre-epitheliomatous. A case of leukoplakia in a syphilitic should not by any means prevent that case from being treated for syphilis. If this man had syphilis, he should be treated regardless of his leukoplakia. In addition to the leukoplakia, this man had



an interstitial glossitis. This case was probably due to syphilis, but not necessarily. Under antisyphilitic treatment the interstitial glossitis might disappear but the leukoplakia would not disappear. Regarding any specific inflammation it was more apt to be due to mercury than arsphenamin. As far as concerned leukoplakia, radium almost positively, if properly applied, would make it disappear, at least temporarily but not necessarily permanently. The main point was that leukoplakia was not a contra-indication against the use of vigorous antisyphilitic treatment.

DR. OCHS recalled a case which Drs. MacKee, Wise and Parounagian had seen in which there was deep ulceration of the tongue and a diagnosis of epithelioma was made. The speaker said he made a diagnosis of syphilis. The patient was given four arsphenamin injections because the Wassermann was +++++. Death from epithelioma followed very shortly thereafter.

DR. BECHET said that he had observed only two cases of arsenical cancer. In both the malignant growth had come on after months and years of continuous arsenical medication. Arsphenamin given intravenously was so rapidly eliminated that it seemed to him the fear of its use in leukoplakia was an exaggerated one.

DR. WISE said he would like to add that in one of the forthcoming issues of THE JOURNAL OF CUTANEOUS DISEASES there would be an abstract of an article describing a series of cases of leukoplakia cured by arsphenamin.

DR. ROSEN said he had had a great number of cases of interstitial glossitis and leukoplakia. While he was no advocate of the treatment of syphilis by internal medication, he thought the best results were obtained by large doses of iodid and mercury internally.

DR. WEISS said he had a patient with leukoplakia of the tongue who was taking sajodin. When he took the drug his leukoplakia assumed an angry appearance which was a sign for him to discontinue the treatment after which the usual condition prevailed again. He thought it must be the effect of the iodid on the system.

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### MANHATTAN DERMATOLOGICAL SOCIETY

*Regular Meeting, Nov. 12, 1918*

PAUL E. BECHET, M.D., *Chairman*

#### PEMPHIGUS VEGETANS. Presented by DR. WISE

L. B., a man, aged 23, a native of Russia, was married, and was a tailor by occupation. He had never contracted gonorrhea or syphilis; his wife had had no miscarriages. Five months prior to presentation he had scratched his gum with his finger nail while picking his teeth. Shortly after, a blister was said to have appeared in the mouth, soon to be followed by others in the mouth and the pharynx. About two weeks later, vesicles and bullae made their appearance on various parts of the body. He then applied for treatment at Dr. Fordyce's service in the Vanderbilt Clinic. Examination revealed a widespread distribution of large and small vesicles and bullae, together with numerous dried up lesions, some of which had a distinct vegetative or verrucous appearance. Some of the efflorescences were arranged in crescents and festoons, others were grouped, others irregularly disseminated. The striking feature of the eruption was the great amount of dark-brown pigmentation at the sites of lesions undergoing resolution. The patient had lost considerable weight since the onset of the disease, but felt comparatively well. He was referred to the wards of the City Hospital for treatment.

## CASE FOR DIAGNOSIS. Presented by DR. WISE.

A. A., a man, single, aged 40, a native of this country, was a waiter by occupation. His personal history was vague and unreliable, his mentality being under par. He contracted syphilis about fifteen years ago. Two years ago, several sores appeared on the back of the neck and on the buttocks, near the median line. He contracted the habit of picking and scratching these sores until he succeeded in digging out what he considered to be the "poisonous substances" within them. On presentation he exhibited a linear pigmented lesion with small excoriations running across the back of the neck, just below the hair line; on the buttocks were large, deeply pigmented, uneven scars with small excoriations, the lesions resembling the remains of old serpiginous nodular syphilids. The patient's Wassermann reaction was ++++ on the day of his appearance at the Vanderbilt Clinic.

## DISCUSSION

DR. MACKEE called attention to the neurotic individual who developed a mania for picking and digging at every elevation and depression occurring in the skin. Such individuals gave various reasons and excuses for the picking. In some instances it was for the removal of supposed ingrowing hairs; sometimes it was an insect that must be removed; or perhaps poison or germs, etc. Some patients admitted at once that the lesions were due to picking, while others attempted to hide the tendency. Such patients, however, when directly accused never denied the truth as occurred in malingering. The interesting point about the disease or condition was that it might simulate almost any cutaneous affection. The speaker had seen eruptions due to picking that could not be distinguished clinically from late syphilis; others that markedly simulated epithelioma, tuberculosis, etc. The speaker thought that the patient exhibited by Dr. Wise presented an eruption falling in this class.

## DIABETE BRONZÉE. Presented by DR. WISE.

Mrs. B. P., aged 45, a Russian, was the mother of two children. She applied at Dr. Fordyce's clinic for the relief of itching of the skin, which had been present for two years past. The skin of the chest, neck and back presented a mottled, light-brown pigmentation, together with evidence of scratching, the appearance simulating arsenical melanosis. The patient had, however, never taken arsenic. Examination of the urine revealed the presence of sugar. She had lost about 20 pounds in weight, in the past two years.

## DISCUSSION

DR. WALLHAUSER said there was a pruritic papular eruption present, and the pigmentation was most pronounced in the areas involved. He was, therefore, inclined to regard the pigmentation as due to the result of scratching.

DR. GILMOUR said it seemed to him that the pigmentation was universal and that the lesions were secondary to the scratching.

DR. GOTTHEIL said he thought it was vagabond's disease. These cases could be seen in the charity wards.

DR. BECHET said that he had not considered the diagnosis of pediculosis plausible. The scratch marks could very well be brought on by a pruritus of diabetic origin, they did not occur in the characteristic locations of pediculosis. There were no parasites in the clothes. The pigmentation was unlike that of chronic vagabond's disease, and its distribution was different.

DR. GOTTHEIL said he considered the staining of the skin to be typical of chronic pediculosis, the so-called vagabond's disease; everywhere the white lines that marked the sites of previous scratching were apparent and the location of the bulk of the pigmentation, on the chest, back and shoulders, was

also characteristic. Just as marked cases of diffuse pigmentation could be found at this moment in his skin wards; and he had not thought of any other etiology.

#### KELOIDS FOLLOWING TNT EXPLOSION. Presented by DR. WISE.

The patient was a man of 23, a native of Poland. He visited the speaker at his office on the day of presentation, for the first consultation. He suffered an accident from an explosion of trinitrotoluol in January, 1918. After healing of the burns, large keloids remained on the backs of the hands and wrists, and smaller diffuse elevations occupied various portions of the face and neck, as well as the ears. An apparently successful plastic operation had been performed on one of the lower eyelids. He was presented for the purpose of exhibiting the lesions before the roentgen-ray treatment was instituted, and was to be again shown before the society at a later date, to demonstrate the results of radiotherapy.

#### DISCUSSION

DR. MACKEE said that the keloid could be excised or that it could be removed with solid carbon dioxid. Keloids were due to cutaneous injury and any measure that was traumatic might be followed by a new keloid. The best treatment for small keloids in the opinion of the speaker, was the roentgen ray or radium. Large keloids should be excised and at the slightest evidence of a return the areas should be treated with the roentgen ray as a prophylactic. If the roentgen ray were employed immediately subsequent to the excision, the prophylactic effect was not as great as when used when the first evidence of returning keloid was noticed.

DR. WALLHAUSER said that he could not agree that the roentgen ray was the only plan to apply; in his experience the use of the cautery or trichloroacetic acid to reduce the growth even with the skin, followed by CO<sub>2</sub> snow had given excellent results in this class of cases.

#### GUMMA OF THE PALATE AND HARD ULCER ON THE PENIS. Presented by DR. WISE.

L. R., male, aged 47, a Russian, was married and the father of six children. His wife had had one miscarriage. He was infected with syphilis about thirty years ago. The nasal bones and palate became ulcerated and broke down about fifteen years later. A year ago, the patient received six arsphenamin and ten mercury injections. A week prior to presentation, he indulged in extramarital coitus. He applied at Dr. Fordyce's service for the treatment of a chancrelike, oval ulcer on the penis, which developed a few days after coitus. Clinically, the lesion was a typical chancre, but several examinations for spirochetes proved negative. In all probability the lesion was a gummatous ulcer.

#### DISCUSSION

DR. KLAUDER (by invitation) said this was a very interesting case. It was apparent that the patient had syphilis of some years' duration. It was not a case of reinfection. The fact that the genital lesion had not occurred at the site of the original chancre would exclude chancre redux as chancre redux must occur at this site and must be indurated. Superinfection, that is, an instance of re-exposure to syphilis while the individual was still syphilitic may cause a lesion corresponding in type to that seen in the stage of the disease at which the individual had arrived. The fact that this lesion occurred one week after intercourse suggested this possibility. The speaker said he did not see how this could be outlawed. Gumma of the penis usually occurred as an indurated mass. Many instances of reinfection were in reality instances of superinfection or reinoculation.



DR. GOTTHEIL said that years ago, under the name of "pseudo-chancr" he reported a case of exulcerated gumma of the sheath of the penis which had been mistaken for a broken down initial lesion. He had a *moulage* of the case in his collection. He also had, at the time of the meeting, a patient in the dermatological ward of the City Hospital who entered with an ulceration of the sheath of the penis which occupied half of the superficies of that organ. The patient came in with the diagnosis of chancre; but the physical evidence of gummatous ulceration was so apparent and the speaker said he did not order either a spirochete or a blood examination and the lesion had healed under mercury and iodids in three weeks. In this case the coincident presence of a palatal gumma, with the characteristic appearance of the lesion, was quite sufficient to make him agree with the diagnosis.

DR. BECHET said that the gummatous infiltration of the palate and injections of arsphenamin would not preclude his having a gumma of the penis. While the lesion bore a strong resemblance to chancroid, the absence of lymphangitis and adenitis would eliminate such a diagnosis. The speaker would therefore be inclined to regard the condition as a gumma.

PRURIGO MITIS. Presented by DR. OCHS.

The patient was a girl, aged 11, colored. When less than a year old she had an eruption of the arms and legs and had never been free of lesions since that time. Only within the last year the eruption spread to the face. The speaker said he considered the case to be one of prurigo mitis. The reason he presented the patient was because it was the second case he had seen in the colored. He thought the condition was rare in that race. The patient had an adenopathy, and the usual sites for prurigo were affected with papules. The condition improved somewhat in summer and became worse in the fall and winter.

#### DISCUSSION

DR. MACKEE said temporary relief would be afforded by the roentgen ray.

SCROFULODERMA AND PSORIASIS. Presented by DR. GOTTHEIL.

The patient was a boy, aged 12. According to the patient's history, both arms and hands and one leg and foot had been affected for the past six months with the ulcerative lesions present at the time of the meeting. During the previous few weeks another eruption had appeared over the body. The first lesion appeared on the back of the right wrist and it was not until two months later that the others were seen. Beside the lesions on the wrist there were two others on the right arm, one on the left arm and one on the right foot and ankle. All were alike in appearance; extensive, purplish-red, more or less vegetating lesions, with ulceration at various places in each of them. Scattered over the body, and especially numerous on the arms, were pea to small bean sized pinkish spots of the more recent efflorescence; on the arms, which had evidently been vigorously scrubbed, there was absolutely no scaling; but the spots on the back were evidently guttate and small numular psoriatic lesions. The largest tuberculous lesions on the backs of the hands and feet showed a few deep scars adherent to the adjacent tissues; but the patient gave no clear history of operation or bone necrosis. The patient was presented as a case of scrofuloderma, in spite of the fact that there was now-days a tendency to limit this term to the forms of skin tuberculosis that occurred secondary to tuberculosis of the lymphatic glands.

#### DISCUSSION

DR. WALLHAUSER agreed with the diagnosis of tuberculosis, but was inclined to classify it as tuberculosis cutis vera, rather than scrofuloderma in which the lymphatic glands were primarily involved.

DR. GILMOUR agreed with the diagnosis.



## MANHATTAN DERMATOLOGICAL SOCIETY

Regular Meeting, Dec. 10, 1918

PAUL E. BECHET, M.D., *Chairman*

## ELEPHANTIASIS. Presented by DR. WALLHAUSER.

The patient was a girl, aged 15, who presented a hypertrophic enlargement involving the right side of the face, of seven years' duration. The enlargement had developed gradually with recurring inflammatory symptoms resembling erysipelas. A roentgen-ray examination showed an abscess pocket at the root of the first molar which had been removed and was followed by improvement, as shown by a reduction in the swelling and redness and no recrudescences had occurred during the previous four weeks.

## DISCUSSION

DR. WISE agreed with the diagnosis from a clinical standpoint. He said he regarded the condition as a cellulitis due to a streptococcus infection.

DR. OULMANN agreed with Dr. Wise.

DR. GILMOUR thought the condition was a reinfection from lesions in the nose.

DR. ROSEN thought this was an interesting case. He suggested that it be investigated from a neurologic standpoint as there existed a distinct inequality of the pupils. There might also be some trouble in the ethmoidal sinuses or in the brain.

## PSORIASIS. Presented by DR. OCHS.

The patient was a child, aged 6, who presented a generalized psoriasis which had been present two years. When the patient was first seen by the speaker, the entire body and scalp were involved.

## URTICARIA PIGMENTOSA. Presented by DR. WISE.

The patient was a child, aged 3½ years. The eruption had been present since she was 4 months old. The family history was negative. This was a well marked case with macular and papular lesions all over the body, but prominent on the jaws over the mandible and accompanied by the usual urticarial wheals some of which remained *in situ*. The itching was a marked feature of the disease.

## PERNIO AND TUBERCULOUS LYMPHOMA. Presented by DR. WISE.

The patient was a girl, aged 8. She came to the Vanderbilt Clinic and presented a pernio of the hands, of one years' duration. The condition appeared last winter and reappeared this winter. She had also a dactylitis and a quite marked lymphoma of the neck with an opacity of the left eye. She was presented to obtain an expression of opinion regarding the involvement of the bone.

## DISCUSSION

DR. OULMANN called the condition a lupus pernio. He said he could demonstrate tuberculous nodules on pressure. He thought the bones were not involved, but a roentgenogram would show them distinctly.

DR. GILMOUR agreed with the diagnosis of pernio. He thought the bone was not involved.

## ERYTHEMA MULTIFORME BULLOSUM. Presented by DR. GOTTHEIL.

F. B., a boy, aged 9, was admitted to the City Hospital, Nov. 9, 1918. He had a very extensive, more or less generalized vesiculo-bullous eruption of the trunk and limbs, which consisted of clear and infected vesicles and bullae in various stages of development with more or less grouping in definite areas. The entire abdomen and chest was occupied by a closely studded mass of lesions, varying in size from minute vesico-papules to bean-sized clear or turbid bullae. There were a few older crusted lesions and some small reddened and moist bean-sized areas which had been the sites of recently ruptured bullae. Smaller but similar areas were present on the back, buttocks and limbs; the face and mucosa were free. The boy's general health was good; there was no febrile reaction or systemic involvement and no itching. According to the patient's history there had been no antecedent attacks and the eruption had been present three weeks.

The entire lesion presented a vivid picture of a grouped multiform eruption with very large but discrete areas covered with bullae, vesicles of all sizes, and crusts with normal skin areas between the affected regions. The boy was sent into the hospital with a diagnosis of pemphigus. This, however, could be rejected on account of the multiformity and grouping of the lesions and the noninvolvement of the mucosa and the general system. The absence of itching and of any history of previous attacks was against any diagnosis of dermatitis herpetiformis; and the case was presented as one of multiform erythema of the bullous and vesicular type, unusual in its extent and severity.

(Epicrisis, Jan. 10, 1919: The patient recovered completely under soothing external applications.)

## DISCUSSION

DR. WISE agreed with the diagnosis. He thought it was futile to discuss the diagnosis, as a real intelligent discussion was impossible without further observation of the patient's eruption. He was unable to make a diagnosis of Dühring's disease in this case.

DR. OULMANN disagreed with the diagnosis on account of the location of the lesions, which were mostly on the trunk, and after the process had disappeared from the body there were for quite some time, more or less bright red, erythematous lesions. In erythema multiforme the extremities and oral mucous membranes were mostly affected and in disappearing there was usually a violaceous discoloring which would fade away quicker than in this case. Since this was the first outbreak we were justified to call it simply an erythema bullosum, but not of the multiform type. It would probably prove later to be a case of Dühring's disease.

DR. OCHS agreed with the diagnosis.

DR. BECHET agreed with Dr. Wise. These bullous eruptions were frequently difficult to diagnose. He had seen cases similar to Dr. Gottheil's eventually develop into pemphigus.

## GRANULOMA PYOGENICUM. Presented by DR. GILMOUR.

The patient was a woman, aged 35, born in Italy. She had had the lesion for two years and had been presented at the Academy of Medicine three weeks before with the diagnosis of granuloma pyogenicum. A roentgenogram was to be taken to see if there was a needle in her hand. The speaker said he wished to extend his thanks to Dr. Trimble for allowing him to present this case.

## DISCUSSION

DR. PAROUNAGIAN said assuming that this was an angioma, and as the ulceration was present, it might be considered Nature's cure, as these cases often ulcerate and heal spontaneously without any medical or surgical assistance.

DR. BECHET stated that he had seen the patient at the Academy, and at that time the lesion seemed to be a typical granuloma pyogenicum. The appearance of the lesions on second presentation might have resulted from treatment.

DR. GILMOUR said the patient had had various kinds of treatment; the lesions had been scraped and burned.

#### LICHEN PLANUS ANNULARIS. Presented by DR. WISE.

Miss A. G., aged 56, duration four years. The patient presented lesions on the lower lip and mucocutaneous junction, the buccal surface of the mouth, and a half-inch patch on the back of the right hand. The speaker said the most marked lesions were lichen planus with atrophic lesions on the leg and in the popliteal space. The lesions on the lip were also lichen planus.

#### PSORIASIS OF FINGER NAILS AND TOE NAILS. Presented by DR. WISE.

S. S., aged 52, peddler by occupation. The patient presented an eruption of psoriasis which was most marked on the toe nails and finger nails. There were also small lesions on the glans penis and the back of the leg. The speaker said if it had not been for these lesions it would have been hard to make a differential diagnosis between tinea and psoriasis. The speaker no doubt had a well marked psoriasis of the nails of the hands and feet and the lesions on the glans penis and leg would clinch this diagnosis.

#### BROMODERMA. Presented by DR. OULMANN.

The patient, an Italian girl, aged 21, had had an attack of influenza nine weeks prior to presentation. Seven weeks before presentation she took some medicine for her sleeplessness and nervousness, which contained bromids. Shortly afterward she developed pustules on the face, forearms and legs, some of which developed hard crusts two weeks later; others became confluent, covered with crusts which were the size of a half-dollar in circumference. The face showed only pustules while the largest rupialike lesions existed on the forearms. The pain was slight and there was no itching.

#### DISCUSSION

DR. OCHS said it was interesting to note that there were not many lesions on the legs.

#### EXFOLIATIVE DERMATITIS AND PSORIASIS. Presented by DR. GOTTHEIL.

E. McC., aged 38, had had psoriasis for a number of years and had been in the City and Metropolitan hospitals at various times for it. A year prior to presentation he was in the skin ward of the speaker suffering from a general eruption of the ordinary type, but very extensive, and with markedly thickened lesions. One month prior to presentation the last attack began and the patient noticed the difference between it and the previous ones. Instead of isolated white spots with fine scaling slowly spreading and unaccompanied with subjective sensations of any kind, his skin became generally reddened and irritated; there was stinging, burning and moderate itching, and large thin scales began to appear. When he entered the hospital, on Nov. 19, 1918, he presented a typical picture of an exfoliative dermatitis. There was a marked general erythrodermia, affecting even his face and head, and his palms and soles; and large, very thin, transparent, lamellar scales, some inches in diameter, were scattered all over the body. These phenomena were still present at the time of presentation and there would be no hesitation in making the diagnosis.

The interrelationship of psoriasis and exfoliative dermatitis was well known; but the speaker said he was entirely unable to offer any explanation of its rationale. The immense majority of cases, of course, ran a definite course one way or the other. It was unusual, however, to be able to definitely trace their alternate occurrence in the same individual.

(Epicrisis, Jan. 13, 1919: The patient had had no treatment in the hospital except the use of 10 per cent. salicylic oil locally. The itching and scaling had disappeared and the general redness was not only less, but had assumed the type of a disappearing psoriasis. The entire skin surface was no longer involved; there were areas of white skin in between the rounded, reddened areas.)

#### DISCUSSION

DR. WISE said it was a very interesting case and a condition which was seen once in a while following a diffuse psoriasis, and which sometimes simulated pityriasis rubra. He thought the patient was in for a hard time as the skin was apt to become infiltrated. They had had success in these cases with the roentgen ray at the Vanderbilt clinic.

DR. GILMOUR said he had seen a case develop a condition like this and get better and develop psoriasis lesions again.

DR. PAROUNAGIAN said he had a private patient who had psoriasis who later developed dermatitis exfoliativa. He would get these attacks quite regularly about once in a year. He usually had severe constitutional symptoms, chills, rise of temperature, swelling and pain about the joints which kept him confined to his bed for several weeks. He would have exfoliation of the epidermis and shed his nails as well as his hair. After the exfoliation subsided, the whole integument would be red and inflamed and he would complain of excessive itching. Some months would elapse before his psoriasis returned.

#### TWO CASES OF ENLARGED HYPERTROPHIED CIRCUMVALLATE PAPILLAE OF THE TONGUE. Presented by DR. OCHS.

The first case was a woman, aged 62. The condition was of one year's duration. She had had pyorrhea and all the teeth were removed and she was referred to the speaker by her dentist. She presented enlarged papillae of the tongue, posterior surface. There was excessive pain and burning of the mouth but no difficulty was experienced in swallowing solids or liquids.

The second case was also a woman who presented the same condition as was present in the first case. She was referred to the speaker by a laryngologist who said he intended to present the patient before the laryngological society. The patient complained of pain on swallowing liquids but no difficulty was experienced in swallowing solids. The condition was of four months' duration. She had had attacks of transient hemiplegia with swelling of the tongue which would disappear and the swelling of the papillae would follow.

#### DISCUSSION

DR. OULMANN said the case was of an inflammatory character, therefore the speaker would have to apply the expression adenitis for adenoma. To prove the nature of the change in the papillae a biopsy was recommended.

DR. GILMOUR said it seemed strange that the swallowing of liquids should cause more pain than the swallowing of solids. One would think it would be the reverse.

DR. OCHS said that the laryngologists stated that they had not seen many cases of this type.



## CASE FOR DIAGNOSIS. Presented by DR. OCHS.

The patient was a negress, aged 21. She presented a tuberculous arthritis of the right elbow joint and metacarpal joints of the right hand. Two Wassermann examinations were negative. The lesions on the body had an infiltrated violaceous appearance which was probably a tuberculous manifestation associated with the affection of the joints. The condition was not painful and had been present two months.

## DISCUSSION

DR. WALLHAUSER regarded the case as a superficial pustular folliculitis similar to the condition described as Bockhart's impetigo.

DR. PAROUNAGIAN did not agree with Dr. Wallhauser's diagnosis of Bockhart's impetigo as Bockhart's was a pustular folliculitis, whereas the lesions in this patient were large crusted lesions with evidence of pruritus. He would regard it as a case of ecthyma.

DR. BECHET thought that the diagnosis of pustular syphiloderm should be considered. The lesions seemed to be uniform in appearance, they seemed to be in the same stage of evolution. The eruption in his opinion would warrant a Wassermann reaction and possibly specific treatment as a therapeutic test.

DR. ROSEN said he thought this was an ordinary case of ecthyma.

DR. WISE agreed with Dr. Rosen that this was a case of ecthyma.

DR. ROSEN said he thought the question of syphilis should not come into consideration. The patient had distinct itching and the lesions would appear at different times, very superficial, with a loosely adherent scale. One lesion would form and the patient would then infect herself and this would become a pustule. If it were a pustular syphiloderm she would have grouped pustular lesions, deeper and more destructive.

## MULTIPLE IDIOPATHIC HEMORRHAGIC SARCOMA. Presented by DR. ROSEN.

S. E., a man, Greek, aged 60, presented lesions on the hands, feet, legs and ear as follows: On the backs of the hands, wrists and elbows there were purplish, violaceous, infiltrated tumors, circumscribed nodules and plaques varying in size from a barley seed to a quarter, affecting mostly the backs of the hands. On the tip of the helix of the left ear there was one pea-sized nodule. On the left leg there were three large walnut-sized tumors, and on the right leg large and small plaques and infiltrated areas.

## DISCUSSION

DR. GOTTHEIL said this was undoubtedly one of the rare mixed cases in which the usually indolent cutaneous and subcutaneous tumors of the Kaposi sarcoma were developing into lesions of the vegetating and ulcerating lesions of the true sarcoma. In a number of the lesions this change was already quite advanced; and the prognosis was the bad one of the usual type of the disease, rather than the relatively good one of the multiple hemorrhagic sarcoma.

DR. WISE said the patient presented a true picture of Kaposi's sarcoma on the backs of the hands where the lesions were flat, violaceous plaques. The tumors of the feet might break down and ulcerate, and the prognosis would then be very bad. The patient could be given considerable relief by roentgen-ray treatment, but the lesions would recur and the patient would have to be under constant treatment. The case would be presented later, showing a flattening of the lesions after roentgen-ray treatment.

DR. OULMANN thought the duration of the disease in this case was more than six months. He had seen cases in which the tumors remained colorless for quite some time and became violaceous later. In most of the cases when the lesions disappeared after roentgen-ray treatment there was a pigmentation. These patients usually died from metastasis of the inner organs after a few years' duration.

DR. WISE said this patient was presented at the Academy by Dr. Leviser who brought out the fact that the roentgen ray was not successful in this case. But he did not state how much roentgen ray had been applied nor how it had been administered. In the discussion Dr. Remer stated that if this patient were given massive doses of roentgen ray, filtered through 3 mm. of aluminum, the lesions would disappear. If the roentgen ray was applied without being filtered, the results would be unsatisfactory.

DERMATITIS HERPETIFORMIS (?). Presented by DR. ROSEN.

Mrs. S., aged 25, had one child 15 months old. The condition was of three months' duration and began with an erythematous-vesicular eruption on the wrists with considerable itching. The patient scratched the lesions and vesicles developed. The eruption spread, involving both arms, chest, back, abdomen and thighs. On examination one would think of pediculosis corporis, but on closer inspection there were scratch marks on the shoulders but none on the waist line or body. She had numerous circinate papules with pea-sized vesicles and intense itching and a distinct tendency to grouping.

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#### ANNOUNCEMENT OF APPROPRIATIONS FROM THE SCIENTIFIC RESEARCH FUND

The UNITED STATES INTERDEPARTMENTAL SOCIAL HYGIENE BOARD, through its executive secretary, DR. T. A. STOREY, 1800 Virginia Avenue, N.W., Washington, D. C., announces the following appropriations from the Scientific Research Fund of the Board:

1. "Investigation Into More Effective Treatment in Acute and Chronic Gonorrhea," under the direction of R. L. RIGDON, M.D., Clinical Professor of Genito-Urinary Surgery, and A. B. SPALDING, M.D., Professor of Obstetrics and Gynecology.....	\$2,300
2. "The Permeability of the Meninges to Anti-Syphilitic Drugs—an Attempt to increase Their Permeability," under the direction of H. G. MEHRTENS, M.D., Clinical Professor of Neurology.....	2,300
3. "Investigation Into More Effective Methods of Treating Syphilis," under the direction of H. E. ALDERSON, M.D., Clinical Professor of Dermatology .....	2,600
Total .....	\$7,200

#### UNIVERSITY OF MICHIGAN, COLLEGE OF MEDICINE AND SURGERY

1. "A Research for an Improved Method of Demonstrating the <i>Spirocheta Pallida</i> in Human Tissues," under the direction of A. S. WARTHIN, M.D., Professor of Pathology.....	\$6,000
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# Notices

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## SURGEON-GENERAL'S ANNUAL REPORT

The Annual Report of the Surgeon-General, U. S. Army, for 1918 (including statistics for the calendar year 1917 and activities for the fiscal year ending June 30, 1918), has just been issued from the Government Printing Office. It contains a comparative study of the health of the Army, 1820-1917; an account of the health of the mobilization camps and of the Army by countries; a consideration (70 pages in extent) of the principal epidemics in the camps, and a discussion of fractures and operations. Nearly 200 pages are devoted to the special activities of the medical department, with the American Expeditionary Forces, and in the divisions of sanitation, hospitals, supplies, laboratories and infectious diseases, internal medicine, general surgery, orthopedics, head surgery, neurology and psychiatry, psychology, food and the dental and veterinary corps. In addition to the usual tables of illness, discharge for disability and death, there are given tables of battle wounds and operations; of complications of various diseases and of case mortality. The text is illustrated by 73 charts. Altogether the report is a study of health and morbidity in an Army of over 1,500,000 men, for the most part yet in the period of training. It should be of interest to epidemiologists, vital statisticians and Army medical men.

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## AMERICAN DERMATOLOGICAL ASSOCIATION

### PAPERS TO BE READ AT 1919 MEETING

- Idiopathic Hemorrhagic Sarcoma of Kaposi.—Harold Newton Cole.  
Leptothrix: Including a Brief Consideration of Trichomycosis Flava, Rubra et Nigra of the Axillary Regions (Castellani's Disease).—John E. Lane.  
Arithmetical Computation of X-ray Dosage.—George M. MacKee.  
Recent Progress with Syphilis.—Harry G. Irvine.  
A Study of Epidermophyton and Allied Infections of the Skin.—Charles J. White.  
So-Called Neurotic Excoriation of the Skin, with Report of a Case.—William Allen Pusey.  
Spontaneous Gangrene of the Skin from Thrombo-angiitis Obliterans, in Relation to Buerger's Disease.—August Ravogli.  
Laboratory and Clinical Studies Bearing Upon the Causes of Reactions Following the Use of Arsphenamine.—Jay F. Schamberg, John A. Kolmer, George W. Raiziss.  
Parapsoriasis Lichenoides Linearis.—H. J. F. Wallhauser.  
The Neurodermatoses and Pseudo-lichens. A Consideration of Their Nosological and Clinical Features.—Fred Wise.  
Neurosyphilis During the Past Six or Seven Years.—John A. Fordyce.  
Bone Formation in Association with Erythematous Lupus.—W. B. Trimble.  
Majocchi's Disease. Report of Two Cases, with Lantern Slides.—Ludwig Weiss.  
Nitrogen Balance in Psoriasis.—Harvey P. Towle.  
Unusual Universal Pigmentation of the Skin.—Grover W. Wende.  
The Etiology of Eczema.—H. H. Hazen.  
A Clinical Study of Lichen Planus.—George D. Culver.  
Etiology of Molluscum Contagiosum. Lantern Slides.—Ude J. Wile and Lyle B. Kingery.  
The Alkali Reserves of the Blood in Various Diseases of the Skin.—Hans J. Schwartz, Oscar L. Levin and H. C. Mahnken.  
A Study of the Relationship of Kidney Functions to Certain Skin Diseases, Based upon the Phthalein Test.—Martin F. Engman and Robert H. Davis.  
Granuloma Annulare.—Arthur W. Stillians.  
Two Unusual Cases of Ringworm.—M. B. Hartzell.  
Topic for general discussion: Lichen Planus. The discussion to be led by E. Graham Little of London, and continued by Charles J. White and Martin F. Engman.

# THE JOURNAL OF CUTANEOUS DISEASES

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## Original Communications

### CHAULMOOGRA OIL IN THE TREATMENT OF LEPROSY

#### I. CHAULMOOGRA OIL MIXTURES

HARRY T. HOLLMANN, M.D.

Formerly Director of Leprosy Investigation Station,  
U. S. Public Health Service

#### II. FATTY ACIDS OF CHAULMOOGRA OIL

A. L. DEAN, PH.D.

Professor of Chemistry and President of the College of Hawaii  
HONOLULU, HAWAII

#### I. CHAULMOOGRA OIL MIXTURES

Chaulmoogra oil has been the one remedy in the past decade that has stood the test of clinical experiments, and it is accepted by all that the internal use of chaulmoogra oil in large doses over more or less long periods of time will ameliorate the clinical manifestations of the disease in nearly all cases of leprosy.

McCoy and the writer in 1916 reviewed the use of chaulmoogra oil in leprosy, and we found that the opinions of the writers on tropical diseases were that chaulmoogra oil was of more or less benefit in the treatment of leprosy.

In my twelve years' experience in the treatment of leprosy I have seen cases in which the manifestations of the disease have disappeared and the lesions become bacteriologically negative from the internal administration of the oil alone. To obtain this result requires faithful administration of large doses over a period of many months, even years.

In 1914, Heiser published the results of the treatment of leprosy with the formula devised by Mercado:

Chaulmoogra oil .....	60 c.c.
Camphorated oil .....	60 c.c.
Resorcin .....	4 gm.



Five cases apparently recovered clinically, one of the five also being free of the bacilli. The publication of Heiser's report led to further studies in the hypodermic method of administering the oil.

On reviewing the literature on the subcutaneous administration of the oil we learn that Tourtoulès of Cairo, as far back as 1899, used the oil hypodermically. Jeanselme, in 1911, used a mixture of chaulmoogra oil, camphor and guaiacol. In 1916, McCoy and the writer published the results obtained in treating cases of leprosy by the subcutaneous method.

In sixteen cases under treatment from ten to seventeen months, ten were improved, four were stationary, and in two the disease advanced. In twenty-six cases we had not administered the oil long enough to permit publication of results.

Late in 1916 Currie and the writer devised the following formula for subcutaneous use:

Iodin .....	1 gm.
Oil eucalyptus .....	8 c.c.
Camphor .....	2 gm.
Olive oil.....	147 c.c.
Chaulmoogra oil.....	150 c.c.
Mix in the order given—using heat.	
Maximum dose, 10 c.c., intramuscularly, once a week.	

The following histories give the clinical details regarding twelve patients who became bacteriologically negative after receiving treatment with the chaulmoogra oil mixtures.

#### REPORT OF CASES

##### *General Condition in Detail at Beginning of Treatment, at Time of Parolement, and at the Present Time*

CASE 1.—Hawaiian, aged 30, male. Type of disease, nodular. Duration, one year.

*General Condition at the Beginning of Treatment.*—Induration of cheeks, nodular infiltration of ears, macular eruption of the neck, chest, back and thighs. *B. leprae* present in all lesions.

*General Condition at the Time of Parolement*, after one year and four months of treatment: Pigmented areas on neck and thighs. No *B. leprae* found.

*Remarks.*—This patient has, as far as known, taken no treatment since; he was declared not a leper one year and eight months after being paroled.

CASE 2.—German-American, aged 24, male. Type of disease, nodular. Duration, six months.

*General Condition at Beginning of Treatment.*—Induration of left cheek, macular eruption on the left breast; *B. leprae* present in the cheek.

*General Condition at Time of Parolement*—after two years' treatment: No evidence of any previous lesions. No *B. leprae* present.

*General Condition at Present Time*—two years after parolement.—No evidence of any previous lesions. No *B. leprae* present.

*Remarks.*—So far as known this patient has not taken treatment since being paroled.

CASE 3.—Japanese; aged 43; male. Type of disease, nodular. Duration, one year.

*General Condition at Beginning of Treatment.*—Indurations of right cheek and forehead. Extensive nodular infiltration of ears. Macules on the arms, thighs and legs. *B. leprae* present in all the lesions.

*General Condition at Time of Parolement*—after one and a half years' treatment: No pathologic lesions present. No *B. leprae* present.

*General Condition at the Present Time*—Two years after parolement.—No recurrence of any lesions. No *B. leprae* present.

*Remarks.*—As far as known this patient has not taken any treatment since date of parolement.

CASE 4.—Part Hawaiian; aged 30; male. Type of disease, nodular. Duration, three years.

*General Condition at Beginning of Treatment.*—Marked induration of the cheeks, chin and forehead. Absence of eyebrows. Extensive nodular infiltration of the ears. Numerous small areas of induration on the arms. Single nodules on each of five fingers. Areas of induration on both thighs. Areas of anesthesia on the hands and forearms, feet and ankles and all areas of induration. *B. leprae* present in all the lesions.

*General Condition at Time of Parolement.*—After one and a half year's treatment: Pigmentation of the skin wherever leprous lesions previously existed. Eyebrows have grown out again. Anesthesia; pigmented areas show a tardy perceptibility of both heat and cold, as well as pain and pressure sensation. Hands and feet show normal sensation. No *B. leprae* found in any area.

*General Condition at Present Time*—two years after parolement: Pigmentation of the face less marked. No pigmentation of the arms and thighs. Sensation is now normal. No *B. leprae* present.

*Remarks.*—This patient has continued weekly injections up to the present time.

CASE 5.—Part Hawaiian; aged 12; male. Type of disease, nodular; duration, about four years.

*General Condition at Beginning of Treatment.*—Indurated areas on cheeks and chin. Extensive nodular infiltration of left ear. Small areas of induration on the arms. Atrophy of thenar muscles. Macules on thighs. *B. leprae* present in all the indurated areas.

*General Condition at Time of Parolement*—after three and a half years' treatment: Faint pigmentation on the left forearm and thighs. No muscular atrophy of the hands. No *B. leprae* found in any area.

*General Condition at Present Time*—two years after parolement: Faint pigmentation on left forearm and thighs. No muscular atrophy of the hands. No *B. leprae* found in any area.

*Remarks.*—This patient has continued weekly injections up to the present time.

CASE 6.—American; aged 50; male. Type of disease, nodular. Duration, two years.

*General Condition at Beginning of Treatment.*—Indurated areas on the cheek, forehead and neck. Extensive nodular infiltration of the ears. Irregularly shaped, pigmented areas on chest, abdomen, back, arm and thighs. *B. leprae* present in all indurated areas.

*General Condition at Time of Parolement*—after two years and eight months' treatment: No indurated areas, ears normal. A faint pigmentation of the abdomen still present. No *B. leprae* present.

*General Condition at Present Time.*—Two years after parolement: No pigmentation, no lesions, no *B. leprae* present.

*Remarks.*—This patient has continued weekly injections up to the present time.

CASE 7.—Part Hawaiian; aged 12; male. Type of disease, nodular. Duration, about one year.

*General Condition at Beginning of Treatment.*—Indurated area on both cheeks. Paralysis of left side of the face. Small indurated area on the arms. Macular eruption on the thighs. *B. leprae* present in all indurated areas.

*General Condition at Time of Parolement.*—After two and a half year's treatment: No paralysis of face, no pigmentation or other lesions present. No *B. leprae* present.

*General Condition at Present Time*—two years after parolement: No paralysis of face, no pigmentation or other lesions present. No *B. leprae* present.

*Remarks.*—This patient has not continued injections since parolement.

CASE 8.—Spanish Portuguese; aged 21; male. Type of disease, nodular. Duration, one year.

*General Condition at Beginning of Treatment.*—Macules on the forehead and cheek. Large single nodule in the lobule of the right ear. Macules on the chest, abdomen and back. *B. leprae* present in the nodule in the right ear.

*General Condition at Time of Parolement*—after one and a half years' treatment: Macules have disappeared. Scar at site of former nodule which was removed surgically. No *B. leprae* present in the scar.

*General Condition at Present Time*—two years after parolement: Same as at time of parolement.

*Remarks.*—This patient continued weekly injections up to the present time.

CASE 9.—Hawaiian; aged 14; female. Type of disease, anesthetic. Duration, three years.

*General Condition at Beginning of Treatment.*—Large ulcer of the nasal mucous membrane, leukodermic areas on the arms and thighs. Plantar pedis ulcer of the big toe of the right foot. Anesthesia of the right foot and leg. *B. leprae* present in the scraping from the nasal ulcer.

*General Condition at Time of Parolement*—after one year's treatment: No ulcer of the nasal mucosa. Leukodermic areas still present. Anesthesia: Retarded perceptibility of sensation for heat and cold. Big toe was amputated shortly after beginning treatment. No *B. leprae* present.

*General Condition at Present time*—two years after parolement: No nasal ulcer, leukodermic areas not so prominent. Sensation is nearly normal in the feet.

*Remarks.*—This patient has not continued injections but has continued treatment per os. (Chaulmoogra oil and iodine compound.)

CASE 10.—Chinese; aged 15; female. Type of disease, nodular. Duration, one year.

*General Condition at Beginning of Treatment.*—Small nodule in left ear. Atrophy of thenar muscles. Leukodermic areas on the thighs. Plantar pedis ulcer, third toe, right foot, also one on the heel of the same foot. Partial anesthesia of both feet. *B. leprae* present in the nodule in the ear.

*General Condition at Time of Parolement*—after one year's treatment: Pigmented scar at the site of the nodule in the ear (nodule removed by cautery). Ulcers healed by sunlight treatment; small scars present. No anesthesia. No *B. leprae* in scar on the ear.

*General Condition at Present Time*—two years after parolement: Same as at time of parolement.

*Remarks.*—The patient has continued weekly injections up to the present time.

CASE 11.—Part Hawaiian; aged 23; female. Type of disease, nodular. Duration, about two years.

*General Condition at Beginning of Treatment.*—Many small areas of induration on the cheeks, chin and forehead. Macules present on the chest, back, arms and thighs. *B. leprae* present in the indurated areas and in the macules.



*General Condition at Time of Parolement*—after one and a half years' treatment: Pigmentation of forehead and cheeks at the site of the old indurations. No macules present. No *B. leprae* found in the site of former lesions.

*General Condition Seven Months after Parolement*.—Numerous macules, deep red in color, from 1 to 4 cm. in diameter, on the back, some of these macules beginning to show induration. Biopsy of these lesions showed many typical *B. leprae*.

Remarks.—This patient did not continue weekly injections after parolement. Patient being married, it was said this recurrence of the disease followed pregnancy (miscarriage).

CASE 12.—Hawaiian; aged 12; male. Type of disease, anesthetic. Duration, about one year.

*General Condition at Beginning of Treatment*.—Ulcer of the nasal mucosa. Many leukodermic areas on the chest and back. Atrophy of the thenar and hypothenar muscles. Beginning contractures of the fingers of the right hand. Large macules on the thighs and buttocks. Anesthesia of the right hand and wrist. *B. leprae* present in the scraping of the nasal mucosa.

*General Condition at Time of Parolement*—after two and a half years' treatment: Partial contraction of the fingers of the right hand, atrophy of the thenar and hypothenar muscles. Slight leukodermia of the buttocks. Anesthesia of the right hand.

*General Condition Two Years after Parolement*.—Large ulcer of the nasal mucosa. Macules on chest, back and thighs. Marked contraction of the fingers of the right hand with atrophy of the thenar and hypothenar muscles. Anesthesia of the right hand and wrist. Numerous *B. leprae* found in the scraping of the nasal mucosa.

Remarks.—This case has not taken treatment since he was paroled.

#### SUMMARY

Of twelve cases of leprosy which became arrested under treatment with intramuscular injections of chaulmoogra oil, two subsequently had a recurrence of the disease, one within seven months and one within two years.

#### II. ISOLATION OF FOUR FATTY ACID FRACTIONS

The improvement manifested by the cases of leprosy I treated with the chaulmoogra oil injections led me to believe that if the active principle or principles could be isolated we would have a remedial agent more easily administered, as evidently the action of the chaulmoogra oil is not due to the palmitic, stearic and oleic acids present.

The twofold problem that presented itself for solution, therefore, was this: (1) To find the principle or principles which produce the beneficial results, and (2) to get such principle or principles in as pure state as possible and in such form as could readily be used hypodermically. Such use required relatively small doses, and in such form as not to cause such severe local reactions as the known chaulmoogra oil mixtures.

At this time I consulted with Dr. A. L. Dean, Professor of Chemistry and President of the College of Hawaii. Becoming interested in the matter, he undertook the problem of separating chaulmoogra oil



into its fatty acid fractions and converting them into such forms as to be more adaptable to hypodermic use. The method of isolating these principles will be more fully described later in this article.

In 1917 the writer and Dr. Dean, for the first time, read the articles on this same line of work by Sir Leonard Rogers and Dr. Sudhamoy Ghosh of India.

#### REVIEW OF THE LITERATURE

Roux in 1891,<sup>1</sup> Trapex Nikoff in 1893<sup>2</sup> and Desprez in 1906<sup>3</sup> mention gynocardic acid as used in the treatment of leprosy.

According to Morrow,<sup>4</sup> the active principle, gynocardic acid in the form of magnesium or sodium gynocardate in capsules, was used by Vidal in this disease.

In 1905 Dyer,<sup>5</sup> for the first time as far as I can find in the literature at my command, mentions the isolation and use of the fatty fractions. He states:

"Chalmoogra oil has been used so long for leprosy and with apparently such good results, up to a certain point, that it occurred to me to experiment with the derivations of crude chaulmoogra oil. Accordingly Messrs. Parke, Davis & Co. separated the oil into its fat acids and delivered these to me with the residuum waste.

"I made pills of each of the acids and of the waste, and experimented with each of these separately, and combined. Again without results."

Amaral and Paranbos,<sup>6</sup> in 1908, used sodium gynocardate with some success.

1910, Currie and the writer, in a number of cases, used magnesium and sodium gynocardate internally, with the object in view of finding some form of the oil that was less obnoxious to the patients.

In 1916, Dr. Sudhamoy Ghosh,<sup>7</sup> working in India on this problem,

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1. Roux: *Etude chimique et therapeutique de l'huile de chaulmoogra et de l'acide gynocardique*, J. de Med., Paris, 1891. Referred to in *Twentieth Century Practice of Medicine* 18:681.

2. Trapeznikoff, F. K.: *Huile de chaulmoogra et acide gynocardique prili-echenii lepri*, Meditsina St. Petersburg. 530: 1893. *Index Medicus*, 1894, p. 73.

3. Desprez, Georges: *Le chaulmoogra, Huile de Chaulmoogra, Acide Gynocardique*, Paris, 1900. *Leprosy*, VI, p. 218.

4. Morrow, P. A.: *Twentieth Century Practice of Medicine* 18:403.

5. Dyer, Isadore: *The Cure of Leprosy*, Med. News, July 29, 1905. *Leprosy* 6:49 fs. 1.

6. Amaral and Paranbas: *Contribution a l'etude du traitement de la lèpre*, Bull. gén. de therap. 23:1908. *Leprosy* 8:249, fs. f.

7. Ghosh, Sudhamoy: *Report of a Chemical Investigation of Chaulmoogra Oil in Connection with Leprosy Treatment*, Indian J. M. Res. 4:69.

isolated from five to seven fractions of fatty acids from chaulmoogra oil by a method depending on a separation by fractional crystallization. The highest melting point acid obtained at this time was 55 C., and the lowest 31 C.

These fractions were combined and converted into sodium salts and used by Sir Leonard Rogers<sup>8</sup> in the treatment of leprosy.

Rogers, in his preliminary note, cites marked improvement in both anesthetic and nodular types of the disease after receiving 1 to 2 grains of sodium gynocardate, intramuscularly, once or twice a week.

In 1917, the same investigator<sup>9</sup> gives the results after two years' experimenting with the acid fractions subcutaneously and intravenously in the treatment of leprosy. He summarizes the results in all the cases that received treatment over three months, in the following table:

Duration of Treatment	Slightly Better	Much Better	Lesions Disappeared
From 3 to 6 months.....	3	3	1
From 6 to 12 months.....	3	3	1
Over 12 months.....	2	2	8

By "lesions disappeared" he also means the patient became bacteriologically negative. Of the twelve patients treated by him over twelve months, 66 $\frac{2}{3}$  per cent. became bacteriologically negative.

In the same year in the *Indian Journal of Medical Research* this author<sup>10</sup> discusses the intravenous use of these acid fractions, and arrives at the following conclusions:

1. The intravenous injections of the sodium salts of the fatty acids of chaulmoogra oil, obtained from the seeds of *Taraxtogenos Kurzii*, produce reactions in leprous tissue with breaking down of the acid fast bacilli, which reactions are followed by great improvement.

2. The higher melting point acids (from 49 to 62 C.) are more active than the lower melting point acids (37 C.).

3. Subcutaneous injections do not produce reactions in the leprous tissues, and are less effective than the intravenous ones.

4. Between one and two years are required to cause the lesions to disappear in the successful cases.

5. While in 50 per cent. of the early cases the lesions disappeared, this occurred in only 25 per cent. of the advanced cases.

8. Rogers, Sir Leonard: Preliminary Note on the Use of Gynocardates Orally and Subcutaneously in Leprosy, *Lancet* **190**:288.

9. Rogers, Sir Leonard: Leprosy Cases Treated by Sodium Gynocardate and Chaulmoogra Intravenously, *Lancet* **193**:682.

10. Rogers, Sir Leonard: Two Years Experience of Sodium Gynocardate and Chaulmoograte Subcutaneously and Intravenously in the Treatment of Leprosy, *Indian J. M. Res.* **5**:277.

## PREPARATION OF FOUR FATTY ACID FRACTIONS FROM CHAULMOOGRA OIL

By A. L. DEAN, PH.D.

In attempting to make preparations from chaulmoogra oil for leprosy treatments, two requirements were to be met: It was desired that, if possible, the curative principle believed to be present in the oil should be isolated, or at least concentrated into smaller bulk; and that some form of the oil better adapted to subcutaneous injections be found.

The natural expedient of converting the oil into water-soluble soaps for purposes of administration was held to be undesirable, and no such soap preparations were made. Because of the physical state of many of the fatty acids derived from chaulmoogra oil, they were even less desirable than the glycerids for purposes of injection.

Experiment showed that the ethyl esters of the chaulmoogra fatty acids were liquids and much more fluid than the original oil. The esterification is carried out by dissolving the fatty acids in absolute alcohol and passing anhydrous hydrochloric acid gas through the solution while this latter is heated to boiling under a reflux condenser. After from 30 to 40 minutes, the reaction is practically complete and the contents of the flask are poured into a large volume of water in a separatory funnel. After washing to remove all hydrochloric acid and alcohol, the ester is dissolved in ether, dried with calcium chlorid, filtered and the ether evaporated.

The oil has been separated into four fractions by the following procedure, using 200 gm. of oil, or multiples thereof, at one time:

The 100 gm. of oil are saponified with alcoholic potash and the bulk of the alcohol subsequently distilled off. The potassium soap is poured into a considerable volume of water and acidified with hydrochloric acid. The fatty acids thus separated are washed with hot water, dried and dissolved in 450 c.c. of 92 per cent. alcohol. On standing overnight in the refrigerator, a large amount of fatty acid crystallizes out and is removed by filtration. From this first crop of crystals, by successive recrystallizations from alcohol, chaulmoogric acid is obtained. This is converted into the ethyl ester and forms Preparation A. The mother liquors from the successive recrystallizations of chaulmoogric acid, which contain all of the solid fatty acids which separated in the initial crystallization from alcohol, except the chaulmoogric acid recovered in A, are united and evaporated. The residue of solid acids is then esterified, forming Preparation B.

The filtrate from the initial separation from alcohol contains the acids which are more soluble in that solvent. These are converted into

their lead soaps by first making the potassium soaps and then precipitating them with lead acetate. The lead soaps, dried either in vacuo or by repeatedly evaporating them down with alcohol on the water bath, are placed in 1,000 c.c. of ether. After thorough shaking, the mixture is allowed to stand overnight and the insoluble residue removed by filtration. These insoluble lead soaps, and the soluble portion recovered from the ether solution, are separately decomposed by treatment in hot water, with successive portions of acetic acid followed by hydrochloric acid. In this manner the lead is all removed and two portions of fatty acids recovered, differing from each other in the solubility of their lead salts in ether. These fractions are then esterified, yielding Preparation C from the fraction with soluble lead salts and Preparation D from that with insoluble lead soaps.

The four fractions are therefore:

- A. Ethyl ester of chaulmoogric acid.
- B. Ethyl esters of acids crystallizing from alcohol with chaulmoogric acid in the initial separation.
- C. Ethyl esters of acids soluble in 92 per cent. alcohol in first separation and which form ether soluble lead salts.
- D. Ethyl esters of acids forming lead salts insoluble in ether .

#### DESCRIPTION OF THE ETHYL ESTER FRACTIONS

These fractions, so-called A, B, C and D, with the exception of A, are not in a pure state; that is to say—

Fraction A is chaulmoogric acid ester.

Fraction B probably contains a small amount of chaulmoogric acid.

Fraction C probably contains a small quantity of Fraction B.

Fraction D likewise contains a small quantity of Fraction C.

*Ethyl Ester of Chaulmoogric Acid "Fraction A."*—A clear, very fluid, yellow liquid having the color of a heavy type of sauterne. When rubbed on the palms of the hands it emits a faint odor like that of chaulmoogra plus a sulphurous odor which is found present after ether has evaporated from a surface.

*Ethyl Ester "Fraction B."*—A very fluid, oily-like liquid, of the color of Spanish sherry, which is almost odorless.

*Ethyl Ester "Fraction C."*—A medium heavy fluid of reddish brown appearance; deep brown in color when seen in a considerable quantity, but when shaken so as to smear the inner coating of the glass container with a thin fluid, possessing a reddish brown color identical in shade with the fluid extracts of glycyrrhiza, having a faint odor of chaulmoogra oil.



*Ethyl Ester "Fraction D."*—A medium heavy fluid of a brownish red appearance, deep red in color when seen in a considerable quantity, having a slight odor of chaulmoogra oil.

*Preparation of the Acids for Hypodermic Use.*—The solutions were first heated on an electric hot plate from twenty-four to forty-eight hours until no further odor of ether was present. They were then sterilized in the autoclave at 15 pounds pressure for one hour.

*Dosage.*—The initial dose was  $\frac{1}{10}$  c.c. intramuscularly, deep into the buttocks. The dose was increased  $\frac{1}{10}$  c.c. each week until  $\frac{1}{2}$  c.c. was given, it was then increased  $\frac{1}{2}$  c.c. at each treatment until the amount given caused too severe a local reaction at the site of injection. This point varied in different patients and with the different fractions, A and D fractions causing the least disturbance, and the ethyl ester of the combined four fractions, the greatest amount of local disturbance at the site of injection.

*Toxicity.*—For animals: Guinea-pigs and rabbits were inoculated subcutaneously with 1 c.c. of each of the four fatty acid fractions with no harmful effect, except localized abscesses at site of each inoculation in Fractions A, B and C.

One rabbit and one monkey were inoculated intravenously with 2 c.c. of acid Fraction C. The rabbit died in twenty-four hours without symptoms except accelerated respiration. On necropsy the lungs were found studded with minute, oily-like droplets—"pulmonary embolism." The monkey died in seventy-two hours, developing paralysis of one leg at the end of forty-eight hours. On necropsy the lungs were found studded with minute, oily-like droplets—"pulmonary embolism." The brain was not dissected.

In my patients I have not experienced any pulmonary disturbance, which so frequently follows the use of chaulmoogra oil mixtures intramuscularly.

Severe vertigo lasting about five minutes frequently follows the injection of over 2 c.c. of any of the four fractions. This is often followed by headache lasting from a few hours to a day.

Fractions A and D have caused the least amount of disturbance of any of the four fractions. Of the four patients who have received Fraction C, three have experienced severe cardiac depression following the injections. In one case the severe vertigo was followed by unconsciousness, which lasted from three to five minutes. Extreme weakness accompanied by vertigo was experienced on attempting to rise from a recumbent position. The reaction was three days in passing off. In another case marked vertigo, with cardiac depression and weakness, followed each 3 c.c. dose of this Fraction C.

*Reactions.*—In the cases under treatment only one was of the pure nerve type. In this no reactions were observed.

In all of the nodular cases there have been local reactions at the site of leprous lesions. They vary in severity from a hyperemia of existing lesions to a marked erysipelatous inflammatory reaction, which in two cases under observation lasted four weeks and was followed by marked pigmentation of the skin. One received A and one B fraction.

In two other cases the reaction usually started at the site of lesions on the arms or legs, which became inflamed, painful and the skin tense. The area of inflammatory reaction extending around the lesion often measured from 6 to 8 cm. Both received B fraction.

In one advanced nodular case, with multiple small nodules scattered over nearly the entire skin surface, the reaction has been carefully watched. The nodules become inflamed and slightly swollen for a day or two. When this subsides there is a slight shrinkage in the size of the nodules. This continues after each injection until the nodule has been entirely absorbed, leaving a marked, crater-like depression covered by finely wrinkled skin. A biopsy of the site revealed no *B. leprae*. This case received Fraction D.

#### CASES TREATED IN DETAIL

The twenty-six cases to be described in detail received chaulmoogra oil and Lugol's solution of iodine internally in addition to the subcutaneous injections of the acid fractions of chaulmoogra oil, with the exceptions of Cases 3, 4, 8, 11, 15, 18, 19 and 20, that did not receive any iodine.

#### REPORT OF CASES

##### *Intramuscular Injection of Fraction A (Chaulmoogric Acid)*

CASE 1.—Hawaiian; aged 20; male. Type of disease, nodular. Duration, about six months.

*Treatment.*—Received 5.25 c.c. in seven injections during a period of three months; initial dose, 0.1 c.c., largest dose, 1 c.c.

*General Condition at Beginning of Treatment.*—Induration of both cheeks, macular eruption on the chest and a large number of papules on the arms. *B. leprae* found in papules and indurated areas of cheeks.

*General Condition Five Months after Cessation of Treatment.*—Extensive nodular formation of ears; induration of cheeks; pigmentation of cheeks, chest, arms and legs.

*Summary.*—A case of nodular leprosy after three months' treatment with relatively small doses of chaulmoogra fatty acid Fraction A, showed no amelioration of the disease.

CASE 2.—Korean; aged 31; male. Type of disease, nodular. Duration, about two years.

*Treatment.*—Received 27.6 c.c. in seventeen injections during a period of four months; initial dose, 0.1 c.c., largest dose, 2 c.c.

*General Condition at Beginning of Treatment.*—Many small nodules present on the face, ears, chest, back, arms and thighs. Papules on the legs. *B. leprae* present in all the lesions.

*General Condition after Four Months' Treatment.*—An appreciable decrease in the size of all the nodules and papules. No change observed in the staining qualities of the *B. leprae* present.

*Summary.*—A case of nodular leprosy after four months' treatment showed beginning retrogression of all the lesions.

CASE 3.—Chinese; aged 25; male. Type of disease, nodular. Duration, about four years.

*Treatment.*—Received 82.5 c.c. in thirty-seven injections during a period of twelve months; initial dose, 0.1 c.c., largest dose, 3 c.c. Local reaction at times in the lesions—never any severe reaction at site of inoculation.

*General Condition at Beginning of Treatment.*—Marked nodular infiltration of face and forehead. Extensive nodular formation with ulceration of ears. Marked pigmentation of chest, abdomen and back. Many nodules on the arms, hands, thighs and legs. *B. leprae* present in all lesions.

*General Condition after Six Months' Treatment.*—A marked decrease in the nodular infiltration of face and forehead, also in the ears. Pigmentation of trunk is much less marked. The nodules on the arms, hands and thighs have been undergoing absorption, until they are more like papules. The *B. leprae* in the lesions now are well-staining, granular, acid fast bacilli.

*General Condition after One Year's Treatment.*—Improvement has not been noticeable in the past six months.

*Summary.*—A case of advanced nodular leprosy during six months' treatment showed marked improvement and then seemed quiescent.

CASE 4.—Portuguese; aged 55; female. Type of disease, advanced nodular. Duration, about two years.

*Treatment.*—Received 55.5 c.c. in twenty-six injections during a period of ten months; initial dose, 0.1 c.c., largest dose, 3 c.c.

*General Condition at Beginning of Treatment.*—Marked indurations of the face, accompanied by intense hyperemia. Marked macular eruption of the trunk. Numerous areas of indurations, which were also somewhat hyperemic, on arms and thighs. *B. leprae* present in all the lesions.

*General Condition after Four Months' Treatment.*—Induration and hyperemia of face, arms and thighs is much less marked. *B. leprae* present in all the lesions.

*General Condition after Ten Months' Treatment.*—All indurations and hyperemia of face have entirely disappeared. On the trunk and extremities the indurations and hyperemic areas have disappeared, leaving more or less pigmented areas. *B. leprae* was not found in any lesion.

*Summary.*—A case of advanced nodular leprosy during 10 months' treatment showed marked improvement. Case paroled.

CASE 5.—Hawaiian; aged 10; female. Type of disease, nodular. Duration, one year.

*Treatment.*—Received 46 c.c. in thirty-one injections during a period of ten months; initial dose, 0.1 c.c., largest dose, 1 c.c.

*General Condition at Beginning of Treatment.*—Induration on the forehead, macular area on one cheek, macular eruption on the chest and thighs. *B. leprae* present in the indurated area on the forehead.

*General Condition after Four Months' Treatment.*—No induration on the forehead, macular eruption on cheek much fainter, no macular eruption on chest, eruption still present on thighs, but much fainter. *B. leprae* are present in the forehead but not at all numerous and are all beaded, acid-fast bacilli.

*General Condition after Ten Months' Treatment.*—No lesions present. No *B. leprae* found.



*Summary.*—A case of nodular leprosy during four months' treatment showed very marked improvement. Case paroled.

CASE 6.—German-Scandinavian; aged 9; male. Type of disease, advanced nodular. Duration, about three years.

*Treatment.*—Received 28.8 c.c. in twenty-four injections during a period of eight months; initial dose, 0.1 c.c., largest dose, 1 c.c.

*General Condition at Beginning of Treatment.*—Extensive nodular formation of ears. Nodules present on the arms. Contracture of fingers of left hand. *B. leprae* present in all nodules.

*General Condition after Four Months' Treatment.*—Nodules on the ears reduced in size. No nodules on the arms. Depressed, crater-like scars, at the site of former nodules, on the bottom of which the skin is finely wrinkled. No improvement in the contracture of fingers. *B. leprae* present in nodules on the ears. Careful biopsy of the former site of nodules shows very few acid-fast bacilli—1 or 2 to a field—which are markedly granular, acid fast staining bacilli.

*General Condition after Eight Months' Treatment.*—Improvement in nodular lesions. Nerve lesions remain the same. Patient died of an intercurrent disease.

*Summary.*—A case of nodular leprosy during eight months' treatment showed marked improvement in the skin lesions—no improvement in the nerve lesions.

#### INTRAMUSCULAR INJECTION OF FRACTION B

CASE 7.—Part Hawaiian; aged 12; male. Type of disease, nodular. Duration, at least six years.

*Treatment.*—Received 3.75 c.c. in seven injections during a period of six weeks; initial dose, 0.1 c.c., largest dose, 1.5 c.c.

*General Condition at Beginning of Treatment.*—Marked induration of face; extensive nodular formation of ears; leukodermic areas on the trunk; extensive areas of induration on arms and thighs. *B. leprae* present in all indurated areas.

*General Condition at End of Six Weeks' Treatment.*—No improvement. *B. leprae* as numerous as before treatment. Subsequent history unknown as patient was sent to Molokai.

*Summary.*—A case of nodular leprosy after six weeks' treatment with small doses of Fraction B showed no improvement.

CASE 8.—Portuguese; aged 9; female. Type of disease, nodular; duration, three years.

*Treatment.*—Received 55 c.c. in fifty-five injections during a period of eighteen months; initial dose, 0.1 c.c., highest dose, 1.5 c.c. Of the fifty-five injections, six caused severe local reactions. Injections during the first six months caused inflammatory reaction around the lesions.

*General Condition at Beginning of Treatment.*—Marked indurations of cheeks and chin; nodular infiltration of ears; extensive areas of induration on thighs with a few scattered nodules. Marked hypertrophy of the soft tissues of fingers. *B. leprae* present in all lesions.

*General Condition after Eleven Months' Treatment.*—Retrogression of the lesions on the face; no change in ears; lesions on the thighs retrogressing. Except for one small nodule which has not disappeared, fingers all appear normal. *B. leprae* present in all lesions.

*General Condition after Eighteen Months' Treatment.*—All nodules and infiltrations on entire body have disappeared, leaving areas of pigmentation. *B. leprae* present in right ear only.

*Summary.*—A case of nodular leprosy after eighteen months' treatment showed marked improvement. This case improved rapidly in the first four months of treatment, and during the last four months.

CASE 9.—Chinese; aged 11; female. Type of disease, anesthetic. Duration, five years.



*Treatment.*—Received 72.8 c.c. in forty-three injections during a period of fourteen months; initial dose, 0.1 c.c., largest dose, 2 c.c.

*General Condition at Beginning of Treatment.*—Macular areas on face, trunk, arms and thighs. Contracture of fingers of both hands. Enlargement of ulnar nerves. *B. leprae* in the nasal mucus.

*General Condition after Eight Months' Treatment.*—Macules are larger, fingers still contracted, nerve involvement on legs, has a spastic gait. Enlargement of ulnar and popliteal nerves (external). No *B. leprae* in the nasal mucus.

*General Condition after Fourteen Months' Treatment.*—Right side of face paralyzed in addition to previous lesions which are progressing.

*Summary.*—A case of anesthetic leprosy after fourteen months' treatment showed rapid advancement of the disease.

CASE 10.—Chinese; aged 40 years; male. Type of disease, nodular. Duration, about two years.

*Treatment.*—Received 99.2 c.c. in forty-three injections during a period of twelve months; initial dose, 0.1 c.c., largest dose, 3 c.c. Each dose of 3 c.c. causes severe local reaction at the site of injection.

*General Condition at Beginning of Treatment.*—Slight induration of cheeks and forehead. Circumscribed pigmented areas of induration on the trunk, arms and thighs. *B. leprae* present in all lesions.

*General Condition at End of Six Months' Treatment.*—No induration of cheeks or forehead. Other lesions unchanged. *B. leprae* present in all lesions, very few in the forehead and cheeks.

*General Condition at End of Twelve Months' Treatment.*—Indurated areas have disappeared leaving pigmented spots. All lesions negative except one area about 6 cm. in diameter which is positive for *B. leprae*.

*Summary.*—A case of nodular leprosy after twelve months' treatment showed marked improvement.

CASE 11.—Chinese; aged 28; female. Type of disease, nodular. Duration, about two years.

*Treatment.*—Received 90.2 c.c. in thirty-eight injections during a period of twelve months; initial dose, 0.1 c.c., largest dose, 3 c.c. Doses of 3 c.c. cause severe reactions at the site of injection—one resulted in an abscess, the contents of which, when placed on a slide and stained, showed leukocytes and a few granular, acid-fast bacilli within the leukocytes.

*General Condition at Beginning of Treatment.*—Marked indurated areas on cheeks and chin. Extensive nodular formation in the ears. Pigmented areas on neck. Papules on arms and thighs. A few discrete nodules on legs. *B. leprae* in all the lesions.

*General Condition after Six Months' Treatment.*—All lesions retrogressing. Depressed pigmented areas, the site of former nodules, on the legs. These areas become deeply congested following each injection. *B. leprae* present in all the lesions.

*General Condition after Twelve Months' Treatment.*—All lesions disappeared. *B. leprae* present in left ear.

*Summary.*—A case of nodular leprosy after twelve months' treatment showed marked improvement.

CASE 12.—Chinese; aged 45; male. Type of disease, nodular. Duration, about two years.

*Treatment.*—Received 110 c.c. in forty injections during a period of eleven months; initial dose, 0.1 c.c., largest dose, 3 c.c. Only one severe local reaction at site of injection; every injection followed by inflammatory reaction in the leprosy lesions.

*General Condition at Beginning of Treatment.*—Many large discrete nodules on face, ears, neck, back, chest, arms, thighs and legs. *B. leprae* present in all the lesions.

*General Condition after Five Months' Treatment.*—Nearly all the nodules have retrogressed and now appear flattened out and pigmented, the skin over them being finely wrinkled. *B. leprae* still present in all lesions.

*General Condition after Eleven Months' Treatment.*—Has made very marked improvement. Nearly all nodules have disappeared.

*Summary.*—A case of nodular leprosy after eleven months' treatment showed very marked improvement.

#### INTRAMUSCULAR INJECTION OF FRACTION C

CASE 12.—Hawaiian; aged 36; male. Type of disease, nodular. Duration, one year.

*Treatment.*—Received 31.85 c.c. in twenty-two injections during a period of five months; initial dose, 0.1 c.c., largest dose, 3 c.c. Doses of 3 c.c. caused collapse, with marked cardiac depression. Following doses of 2 c.c. or over there were reactions around the leprosy lesions.

*General Condition after Five Months' Treatment.*—The patient at this time passed from our observation. No nodules on the face, no induration of the forehead, no infiltration of the ears. Indurated area on chest absorbed, skin is now pigmented. Retrogression of the existing lesions on the back, arms, thighs and legs. No *B. leprae* at the site of previous lesions on face or forehead; a few finely granular, acid-fast bacilli in the ears and pigmented area on chest; in the retrogressing lesions, numerous granular, acid-fast bacilli.

*Summary.*—A case of nodular leprosy after five months' treatment showed marked improvement.

CASE 14.—Hawaiian; aged 19; male. Type of disease, nodular. Duration, one year.

*Treatment.*—Received 108.7 c.c. in forty-three injections during a period of twelve months; initial dose, 0.1 c.c., largest dose, 4 c.c. Each injection followed by reaction in the leprosy lesions.

*General Condition at Beginning of Treatment.*—Nodules on the face, ears, arms, hands, thighs and legs. *B. leprae* present in all lesions.

*General Condition after Six Months' Treatment.*—The nodules have all undergone retrogressive change; many have disappeared leaving pigmented areas, others are now more papular in character. *B. leprae* present in all retrogressing nodules; in the pigmented areas, very few granular, acid fast bacilli.

*General Condition after Twelve Months' Treatment.*—Nodules are present on the hand, which are retrogressing slowly. Macular areas have appeared on the back.

*Summary.*—A case of nodular leprosy after twelve months' treatment showed improvement.

CASE 15.—Hawaiian; aged 42; female. Type of disease, nodular. Duration, many years.

*Treatment.*—Received 115.2 c.c. in thirty-eight injections during a period of twelve months; initial dose, 0.1 c.c., largest dose, 4 c.c. After receiving a total of 1.7 c.c. in three injections, patient showed marked inflammatory reaction in all lesions. Temperature, 39 C. The reaction extended into the surrounding tissue and partook of an erysipelatous nature; after three weeks, reaction subsided leaving deep port wine colored pigmentation.

*General Condition at Beginning of Treatment.*—Marked induration of face, extensive nodular infiltration of the ears, slight facial paralysis, one side. Large macules on chest, abdomen, back, arms and thighs. Numerous nodules on the arms. *B. leprae* present in all the above lesions.

*General Condition after Six Months' Treatment.*—The involvement of the face and ears is less marked. There is now a deep port wine colored pigmentation of the face, chest, abdomen and thighs. The macules on the arms and

thighs have become slightly indurated. *B. leprae* present in all lesions and in pigmented areas.

*General Condition after Twelve Months' Treatment.*—Large areas of deep port wine colored pigmentation of the trunk and extremities.

*Summary.*—A case of nodular leprosy after twelve months' treatment showed marked improvement.

CASE 16.—Portuguese; aged 60; male. Type of disease, nodular. Duration, four years.

*Treatment.*—Received 41.2 c.c. in twenty-one injections during a period of five and a half months; initial dose, 0.1 c.c., largest dose, 3 c.c. Doses of 3 c.c. always caused severe headache, vertigo and cardiac depression.

*General Condition at Beginning of Treatment.*—Marked induration of forehead and cheeks, extensive nodular infiltration of ears. Brownish pigmentary areas, irregular in shape, which often coalesced, on the chest, abdomen, back, arms and thighs. Anesthesia of the hands and feet for heat and cold as well as pain and pressure sense. *B. leprae* present in lesions on ears and cheeks.

*General Condition after Five and a Half Months' Treatment.*—Induration of the cheeks and forehead is retreating, as is the involvement of the ears. The pigmentation of the chest, abdomen and back is about the same, while that on the thighs is much less prominent. Sensation in the hands is nearly normal, while there is still slight anesthesia in the feet. *B. leprae* still present in all the lesions.

*Summary.*—A case of nodular leprosy after five and a half months' treatment showed marked improvement. Patient died of an intercurrent disease.

CASE 17.—Hawaiian; aged 36; female. Type of disease, nodular. Duration, one and a half years.

*Treatment.*—Received 96.2 c.c. in thirty-five injections during a period of sixteen months; initial dose, 0.1 c.c., largest dose, 4 c.c.

*General Condition at Beginning of Treatment.*—Eyebrows scanty, induration of forehead, cheek, chin and ear. *B. leprae* present in all lesions.

*General Condition after Sixteen Months' Treatment.*—Lesion on forehead disappearing, leaving pigmented skin. All other lesions disappeared, leaving no evidence such as pigmentation. All lesions negative for *B. leprae*.

*Summary.*—A case of nodular leprosy showed very marked improvement after sixteen months' treatment. Patient paroled.

CASE 18.—Hawaiian; aged 27; female. Type of disease, nodular. Duration, about one year.

*Treatment.*—Received 83 c.c. in thirty-two injections during a period of ten months.

*General Condition at Beginning Treatment.*—Nodules on face, ears, arms and legs. Macules on chest, back and thighs. *B. leprae* present in all lesions.

*General Condition after Ten Months' Treatment.*—No demonstrable lesions. No *B. leprae* found.

*Summary.*—A case of nodular leprosy after ten months' treatment showed very marked improvement. Patient paroled.

#### INTRAMUSCULAR INJECTION OF FRACTION D

CASE 19.—Hawaiian; aged 33; male. Type of disease, nodular. Duration, about two years.

*Treatment.*—Received 167.15 c.c. in fifty-three injections during a period of sixteen months; initial dose, 0.1 c.c., largest dose, 7 c.c. Doses of 5 c.c. and over caused reaction at the site of injections.

*General Condition at Beginning of Treatment.*—Many nodules on face, back, arms, hands and thighs. Nodular infiltration of ears. Induration of forehead. Many papules on chest and abdomen. *B. leprae* present in all the lesions.



*General Condition after Ten Months' Treatment.*—Induration of forehead retrogressing, nodules on face and ears are much smaller, papules have disappeared from the chest and abdomen. Many of the nodules on the back, arms, hands and thighs have disappeared, leaving pigmented spots, others are greatly reduced in size. *B. leprae* present in all lesions, in the pigmented spots extremely few in number and of the beaded variety.

*General Condition after Sixteen Months' Treatment.*—Nodules have nearly all disappeared.

*Summary.*—A case of advanced nodular leprosy after sixteen months' treatment showed very marked improvement.

CASE 20.—Japanese; aged 46; female. Type of disease, nodular. Duration, six years.

*Treatment.*—Received 80.5 c.c. in thirty-three injections during a period of eleven months; initial dose, 0.1 c.c., largest dose, 3 c.c. Doses of 3 c.c. caused intense reaction at site of injection, one resulting in abscess formation, the contents of which, when placed on a slide and stained, showed broken-down leukocytes. This patient, following each injection, has reactions in the lesions, less marked now than at first.

*General Condition at Beginning of Treatment.*—Marked induration of the entire face, extensive nodular infiltration of ears. Areas of induration, which were elevated above the surrounding skin, on the chest, abdomen, back, arms and thighs, these areas being very hyperemic. *B. leprae* present in all the lesions.

*General Condition after Five Months' Treatment.*—Marked retrogression of the lesions on the face and ears. The areas of induration on the chest, abdomen, back, arms and thighs are now on a level with the surrounding skin, and are not hyperemic but pigmented. *B. leprae* still present in all the lesions.

*General Condition after Eleven Months' Treatment.*—All nodules have disappeared. Eyebrows partially restored at this time. Areas of induration disappeared, leaving pigmented areas. *B. leprae* not found in areas of skin where previously found.

*Summary.*—A case of advanced nodular leprosy after five months' treatment showed very marked improvement. Patient paroled.

CASE 21.—Hawaiian; aged 19; female. Type of disease, nodular. Duration, two years.

*Treatment.*—Received 60.5 c.c. in twenty-two injections during a period of six months; initial dose, 0.1 c.c., largest dose, 4 c.c.

*General Condition at Beginning of Treatment.*—Indurated areas on forehead, cheeks and chin. Beginning nodular infiltration of ears. Many small areas of induration on the chest, abdomen, back and arms. Quite large areas of induration on the thighs. *B. leprae* present in all lesions.

*General Condition after Six Months' Treatment.*—No induration of the forehead, cheek or chin. Ears appear normal. No indurated areas on the chest, abdomen or arms. The skin is finely wrinkled and pigmented at the site of the former induration on the thighs. No *B. leprae* present.

*Summary.*—A case of nodular leprosy after five months' treatment showed very marked improvement. Patient paroled.

CASE 22.—Hawaiian; aged 36; male. Type of disease, nodular. Duration, about one year.

*Treatment.*—Received 118.5 c.c. in thirty-seven injections during a period of ten months; initial dose, 0.1 c.c., largest dose, 4 c.c.

*General Condition at Beginning of Treatment.*—Many nodules on the face; nodular infiltration of ears; many small areas of induration which were also hyperemic, on the chest, abdomen, back, thighs and legs; numerous nodules on the arms and hands. *B. leprae* present in all lesions.



*General Condition after Five Months' Treatment.*—Nodules have disappeared, leaving irregularly shaped, depressed scars; ears appear normal; many of the former indurated areas on the chest, abdomen and back are now depressed, pigmented scars; irregularly shaped, depressed areas at the site of former nodules on the arms and hands. *B. leprae* present in the areas on the chest, abdomen and back which have not entirely disappeared; there are no *B. leprae* in the depressed areas.

*General Condition after Ten Months' Treatment.*—Nearly all lesions had disappeared. Patient died of an intercurrent disease.

*Summary.*—An advanced case of nodular leprosy after ten months' treatment showed very marked improvement.

CASE 23.—Hawaiian; aged 26; female. Type of disease, nodular. Duration, about six months.

*Treatment.*—Received 89.5 c.c. in thirty-one injections during a period of nine months. Initial dose, 0.1 c.c., largest dose, 4 c.c.

*General Condition at Beginning of Treatment.*—Ears indurated, macules on face, neck, chest, back, arms and thighs. Induration of left wrist. *B. leprae* present in all lesions.

*General Condition after Nine Months' Treatment.*—All lesions have disappeared. There is now pigmentation of the skin on left wrist, the site of former induration. No *B. leprae* found.

*Summary.*—A case of nodular leprosy showed very marked improvement after nine months' treatment. Patient paroled.

INTRAMUSCULAR INJECTION OF AN ETHYL ESTER OF THE COMBINED FOUR REACTIONS

CASE 24.—Hawaiian; aged 14; male. Type of disease, nodular. Duration, about two years.

*Treatment.*—Received 21.5 c.c. in ten injections during a period of three months; initial dose, 0.1 c.c., largest dose, 3.5 c.c.

*General Condition at Beginning of Treatment.*—Two large areas which were indurated and raised above the surrounding skin, on forehead. An area of induration which was also raised above the surrounding skin, on the chin and extending on to the cheeks on each side. Beginning atrophy of the muscles of the left hand. Partial anesthesia to heat and cold in left hand. Ulnar nerve, left side, enlarged. *B. leprae* present in the indurated areas.

*General Condition after Three Months' Treatment.*—Pigmentation of the skin, which is depressed at the site of the former areas of induration on the face. Sensation gradually returning to left hand. Atrophy of the thenar muscles has not progressed. No *B. leprae* found.

*Summary.*—A case of nodular leprosy after three months' treatment showed very marked improvement. Case paroled.

CASE 25.—Part Hawaiian; aged 21; male. Type of disease, nodular. Duration, about two years.

*Treatment.*—Received 12.5 c.c. in ten injections during a period of three months; initial dose, 0.1 c.c., largest dose, 2 c.c.

*General Condition at Beginning of Treatment.*—Indurated areas on cheeks and chin, one large nodule over left eye. Nodular infiltration of ears. Leukodermic areas on the back. Indurated areas on the arms. Swelling of the hands. Pigmented, indurated areas on the thighs. Swelling of the legs, skin covered with dry crusts. *B. leprae* present in all the lesions.

*General Condition after Three Months' Treatment.*—No induration on the cheeks and chin; great reduction in size of the nodule over the eye and the skin covering it is pigmented. Indurated areas have disappeared from one arm and retrogressed on the other arm. The indurations on the thighs are retrogressing. *B. leprae* present in the nodule over the left eye and in the retrogressing lesions. A few acid-fast bacilli were found in the cheek and chin, very granular in character.

*Summary.*—A case of nodular leprosy after three months' treatment showed improvement.

CASE 26.—Porto Rican; aged 17; male. Type of disease, nodular. Duration, about two years.

*Treatment.*—Received 13.5 c.c. in eleven injections during a period of three months; initial dose, 0.1 c.c., largest dose, 1.5 c.c.

*General Condition at Beginning of Treatment.*—Indurated areas on cheeks and forehead, nodular infiltration of ears. Irregularly shaped areas of pigmentation on chest, back and abdomen. Small indurated areas on the arms. Atrophy of the thenar and hypothenar muscles. Partial contracture of fingers. Marked ulceration of the skin on the legs and toes. Both ulnar nerves enlarged. *B. leprae* present in all the indurated areas.

*General Condition after Three Months' Treatment.*—All the lesions have retrogressed except the atrophy of the hands and the contracture of the fingers, in which there has been no change. The ulcerations on the legs and toes have all healed. *B. leprae* present in all the indurated areas.

*Summary.*—A case of advanced nodular leprosy after three months' treatment showed improvement except in the symptoms caused by nerve involvement.

## GENERAL SUMMARY

Case	Age, Yrs.	Disease	Fraction Used	Total Dose in C.c.	Treated Three Months or Under	Treated Six Months or Under	Treated Twelve Months or Over	Results
1	20	Nodular	A	5.25	Yes	....	....	No improvement
2	31	Nodular	A	27.6	....	Yes	....	Slight improvement
3	25	Nodular	A	82.5	....	....	Yes	Improvement
4	55	Nodular	A	55.5	....	....	Yes	Marked improvement
5	10	Nodular	A	46.0	....	....	Yes	Marked improvement
6	9	Nodular	A	28.8	....	....	Yes	Improvement in nodular lesions, symptoms caused by nerve involvement not improved
7	12	Nodular	B	3.75	Yes	....	....	No improvement
8	9	Nodular	B	55.0	....	....	Yes	Improvement
9	11	Anesthetic	B	72.8	....	....	Yes	No improvement
10	40	Nodular	B	99.2	....	....	Yes	Marked improvement
11	28	Nodular	B	90.2	....	....	Yes	Marked improvement
12	45	Nodular	B	110.0	....	....	Yes	Marked improvement
13	36	Nodular	C	31.85	....	Yes	....	Marked improvement
14	19	Nodular	C	108.7	....	....	Yes	Marked improvement
15	42	Nodular	C	115.2	....	....	Yes	Marked improvement
16	60	Nodular	C	41.2	....	Yes	....	Marked improvement
17	36	Nodular	C	96.2	....	....	Yes	Marked improvement
18	27	Nodular	C	83.0	....	....	Yes	Marked improvement
19	33	Nodular	D	157.15	....	....	Yes	Marked improvement
20	46	Nodular	D	80.5	....	....	Yes	Marked improvement; bacilli disappeared
21	19	Nodular	D	60.5	....	Yes	....	Marked improvement; bacilli disappeared
22	36	Nodular	D	118.5	....	....	Yes	Marked improvement; bacilli disappeared from nearly all lesions
23	26	Nodular	D	89.5	....	....	Yes	Marked improvement
24	14	Nodular	A, B, C, D	21.5	Yes	....	....	Marked improvement; no bacilli present
25	21	Nodular	A, B, C, D	15.2	Yes	....	....	Improvement
26	17	Nodular	A, B, C, D	13.5	Yes	....	....	Improvement; symptoms caused by nerve involvement not improved

From a study of this table it will be seen that those patients who received Fractions C and D have shown the greatest improvements. The bacilli in the lesions in eight of the cases disappeared. It will also be noted that the one anesthetic case was not improved.

## DISCUSSION (DR. HOLLMANN)

In the light of the knowledge gained in the treating of these twenty-six cases with the Fractions A, B, C and D of the fatty acid isolated from chaulmoogra oil, I am convinced that in these fractions we have, at this time, a method of subcutaneous injection in leprosy superior to the chaulmoogra oil mixtures. They are more easily administered, a much smaller dose is required at each injection, and there is more marked and more rapid amelioration of the disease. In the use of the ethyl ester of these fractions subcutaneously, we have noticed reactions in the leprosy lesions. Rogers did not produce this reaction in leprosy lesions in work with the sodium salts of the fatty acid fractions of chaulmoogra oil, subcutaneously; his sodium salts intravenously did, however.

While the indications are that Fraction C and Fraction D are more rapid in their actions than the other fractions, the number in the series of cases has been too small to say positively. This difficulty I was unable to overcome owing to the fact that the number of cases depended on the amount of the acid fractions Dr. Dean was able to isolate for me. Of the twenty-six cases treated over four months, all showed improvement, many showing very marked improvement. Eight of the twenty-six have already become bacteriologically negative and have been paroled from segregation.

## CONCLUSIONS

1. In the use of the ethyl ester of the fatty acids of chaulmoogra oil, subcutaneously, we have a method of treatment in leprosy superior to subcutaneous injection of the chaulmoogra oil mixtures.

2. These esters when given subcutaneously have caused reactions in the leprosy lesions with subsequent improvement.

3. In six months' time large nodules have entirely disappeared, leaving deep craterlike scars.

4. Of the twenty-six cases treated, seventeen cases showed marked improvement; three cases showed improvement; one case showed light improvement, and only three cases showed no improvement, being under treatment only three months or less.

5. Of the twenty-six cases treated, eight have become bacteriologically negative in less than two years.

# LEPOTHRIX

INCLUDING A BRIEF CONSIDERATION OF TRICHOMYCOSIS FLAVA, RUBRA  
ET NIGRA OF THE AXILLARY REGIONS (CASTELLANI'S  
DISEASE)\*

JOHN E. LANE, M.D.  
NEW HAVEN

## INTRODUCTION

In the reports of the Committee on Statistics of the American Dermatological Association for the years 1878 to 1911, inclusive, and for the year 1916, a period of thirty-four years, Pollitzer gives a total of fourteen cases of lepothrix reported in this country by members of this Association. During the same period sixty-five cases of chromidrosis were reported. It is probably fair to assume that in a great majority of the cases of chromidrosis lepothrix was a concomitant affection. Assuming that lepothrix was present in all the cases of chromidrosis, and that none of them was reported together, there would be a total of seventy-nine cases of lepothrix.

As the disease is very common, the deductions from these figures plainly are: (1) that lepothrix is usually overlooked; (2) that it gives no trouble in most cases, and (3) that the dermatologist is almost never consulted for it except in those cases in which it is accompanied by pseudo-chromidrosis.

In examinations of drafted men my attention was repeatedly recalled to the disease by the number of cases of axillary pseudo-chromidrosis which were seen. As there is little recent literature on lepothrix in English, as the older literature is somewhat inaccessible and as some observations not previously recorded have been made, it has seemed that the subject might not be entirely devoid of interest in spite of the fact that the disease is of very little practical importance.

## SYNONYMS

Lepothrix (*λεπίς*, scale; *θρίξ*, hair) is the name most commonly used, and as it is noncommittal as to etiology, it is probably the best term to employ, though not descriptive of the condition. It was first used by Wilson, and was based on his own description of the disease which was fanciful and inaccurate. It is rather curious that this name

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is very frequently confounded with *leptothrix*, even by dermatologists. Two prominent British dermatologists consistently use *leptothrix* in their textbooks, meaning lepothrix. Trichomycosis palmellina of Pick is a name frequently used. Other names, now for the most part abandoned, that have been applied to lepothrix are: zooglea capillorum, trichomycosis axillae, trichomycosis vulgaris, mycosis axillaris, nodositas pilorum microphytica and trichomycosis nodosa. The last name, which was first employed by Patteson, was frequently used for a time, but it was an unfortunate term which caused considerable confusion, as it had been previously applied to piedra by Juhel-Renoy. It is now used only as a synonym of piedra. Its use probably partly accounts for the fact, already noted by Joseph, that in the literature, lepothrix and other similar diseases are frequently confused.

#### HISTORY AND BIBLIOGRAPHY

The names associated with early descriptions of the disease are those of Paxton, Pick and Wilson. While it is probable that the disease had been previously observed (see, for example, Vogt's article on chromotrichiasis published in 1864), lepothrix was not clearly described and differentiated until 1869, when Paxton published his paper, "On a Diseased Condition of the Hairs of the Axilla, probably of Parasitic Origin."

Pick, probably without any knowledge of Paxton's article, described the condition and showed some specimens of affected hairs at the Naturforscherversammlung in Gratz, in 1875, giving it the name trichomycosis palmellina. A brief abstract of his remarks was published the following year, but I have been unable to discover that they were anywhere published in full. Eisner, of his clinic, published an article in 1897, which gives an outline of Pick's description and some drawings which Pick had presented at the meeting to which reference has been made.

In 1876, Erasmus Wilson gave the name of lepothrix to the disease. That is the only reason for associating his name with it, as his description is so poor that from it alone the disease could hardly be identified. He gives as the most prominent characteristic "a loosening and partial detachment of the overlapping edges of the scales of the cuticle."

Among others who have made contributions of importance to the knowledge of the disease are Eberth, Babes, Balzer and Barthélemy, Patteson, Crocker, Hartzell, Komorita and Schöbl.

A few words should be added in regard to the appended bibliography. The attempt has been made to make it correct and complete. A few references are included to articles which perhaps do not strictly belong in a bibliography of lepothrix, but which describe conditions

akin to lepothrix, or conditions which are not described with sufficient detail to positively identify them as lepothrix.

Some years ago there was a period during which chromidrosis was the subject of many papers and of much dispute, and much information regarding lepothrix is found in papers on this subject.

#### DESCRIPTION

As Paxton's is the first accurate description of lepothrix, it deserves to be quoted.

The affected hairs are of a lighter color than those which remain normal, and are also swelled and knotty, and have a dull gelatinous appearance. This deformity usually commences a few lines above the bulb, and extends over the whole remaining length of the hair; but in some cases a much smaller part is affected, or there may be only a few isolated knobs. The swelling depends mainly on masses of foreign matter attached to the hair in more or less of its circumference, but not usually surrounding it anywhere. They are so closely adherent that a transverse section may be readily made without detaching them. In its more central parts such a section does not exhibit anything abnormal, but at its circumference the hair structure is seen to be frayed out, fibers passing into the masses of foreign matter which here cover it on both sides. In structure these masses are granular, with an obscure appearance of lines radiating outwards.

While additional points have been noted by subsequent observers, Paxton's description is fairly complete and accurate as far as it goes. He recognized two types of the disease; that with only a few knobs on the hair, and that in which nearly the whole length of the hair is involved. Bodin describes these two types a little more fully, saying that "sometimes there are small rounded masses which are more or less numerous and separated from each other by healthy spots; sometimes on the contrary the granulations are diffuse, ensheathing the hair to a greater or less degree for a part or the whole of its length." These two types are recognized by other observers as Eisner, Balzer and Barthélemy and Schöbl. Where they have not been recognized confusion has sometimes arisen.

Considerable confusion has also arisen on account of the different descriptions which have been given of the consistency of the masses on the hair. Paxton was not very specific on this point, saying only that they were closely adherent. Patteson and several others have insisted that hardness of the nodes is characteristic of the disease. Payne disputed his findings and insisted that in some cases the masses were soft, and Eberth had previously said that on dry hair the deposit is tightly adherent and brittle, but when moist it is a rather sticky mass which easily breaks up into small pieces. Behrend later said that as long as the hair stays in the axilla and is moist, the deposit is soft, but becomes harder when dried in the air, and Eisner that the masses are

easily scraped off when the hair is just pulled out, but when dry this is harder to do, and in attempting to do it the hair is often split or torn.

In my own cases there was the greatest variation in this respect. Sometimes the masses were very hard and adherent and at other times quite soft and easily removed. It is evident that consistency is in no way characteristic, and that, as Hartzell has pointed out, it is an accidental circumstance, dependent on whether the hairs are dry or are macerated by perspiration.

The reason for insisting on this point will be seen in the consideration of Castellani's disease.

Some observers give brittleness of the hair as a characteristic. Crocker says that in the most marked cases the hairs are brittle; Schöbl that the hairs tear easily; Hartzell that the hairs are usually quite brittle and frequently break with a brush like fracture. My observations seem to indicate that brittleness is also an accidental circumstance. In cases with small nodes and little perspiration, namely, in mild cases, the hairs are as strong as normal hairs. In cases where the growth is profuse and accompanied by considerable sweating, and the shaft of the hair is invaded by the growth to a considerable extent it is easily broken. Sometimes the hairs, under the microscope, present nodes and brush-like fractures indistinguishable from those of trichorrhexis nodosa.

Nearly all observers are agreed that the bulb of the hair is not affected, and that the disease affects the hair only above the level of the surface of the skin. Babes found the roots of the hairs free from bacteria. Schöbl says that epilation is scarcely felt by the patient, and Ormsby that the hairs are loosened in their follicles. I have never met with this, and even in the most marked cases the hairs were as firmly implanted and required as much force for epilation as normal hairs.

Classed by color, three types of the growth are recognized. Many observers have described only one of them. Most frequent is the reddish-brown variety, which is of varying shades; next in frequency the yellowish and much more infrequent the black. From the description of such cases of blue chromidrosis as I have read, I have not been able to decide whether lepothrix was also present. So far I have met with the yellow variety only in decided blondes. The appearance to the naked eye and also under the microscope of the different varieties is identical except for the color. It is probable that different colors are predominant in different localities, for Behrend quotes Haslund as saying that the reddish variety alone is found in Copenhagen. In this country the black variety is apparently rare, and has not been previously reported in the literature with which I am familiar. It will be referred to more fully later.



Microscopic studies show that the primary growth takes place on the surface of the hair. Later it penetrates more or less into the substance of the hair through mechanical lesions or through destruction of the outer layers by the growth itself. In marked cases, as already stated, there is splitting and fracture of the hair.

#### LOCATION

The great majority of the cases of lepothrix are found in the axilla. Several observers have also found it on the scrotum and in the inguinal and perineal regions. Winternitz reported one case of a disease of the hairs of the head which resembled lepothrix, and either lepothrix or some similar condition has been reported on the chest and ankle. It is impossible to state whether or not these were cases of lepothrix. In any case the disease is extremely rare in any location except the axillae and the genital region.

#### SYMPTOMS AND ASSOCIATION WITH OTHER DISEASES

Paxton said that lepothrix "does not appear to produce any inconvenience or irritation, or to be accompanied by any disease of the surrounding parts." His statement has for the most part been confirmed. Crocker said that it rarely gives any trouble, though in one of his cases it was associated with intense itching. Balzer and Barthélemy said that there is usually little or no inconvenience, but that in very intense cases there is some itching and disagreeable odor. Babes also said that it may cause slight erythema and itching. Schöbl saw one case with folliculitis and lymphadenitis probably due to secondary staphylococcus infection. The most frequent complication is pseudochromidrosis, which is present in a small percentage of cases. Hyperidrosis is frequent and bromidrosis is occasionally found.

#### FREQUENCY

There are few accurate statistics of the frequency of occurrence of the disease. Paxton said that it is not very uncommon; Crocker, Ducrey, and Balzer and Barthélemy that it is very frequent. Behrend found it in 90 per cent. of his dispensary cases, but Columbini found it is not more than 5 per cent. of such cases in over a hundred individuals examined. Schöbl found it in practically all whites in the Philippines. Referring to Behrend's figures, Jackson and McMurtrie state that it is much less frequent in this country, and Stelwagon says that it is a rare affection according to ordinary observations. In my experience it is very frequent in all classes, in both sexes and at all ages after the growth of the axillary hair. During July and August,



1918, I found it in 51 of 128 drafted men 21 years old. Of 100 white men, there were 43 affected, and of 28 negroes of various shades 8 were affected. These figures are probably somewhat low, as the examination was made rapidly with the naked eye, and some mild cases were undoubtedly overlooked.

#### GEOGRAPHICAL DISTRIBUTION

Lepothrix is probably distributed throughout the whole world, with the possible exception of the frigid zone, where no observations are recorded. It has been reported in America, England, France, Germany, Italy, Denmark, the Philippines and Japan. It is probably less frequent in the cold latitudes, as Schöbl states that in the Philippines it is most frequent in the hot season and is reduced to a minimum in the cool season and at high altitudes.

#### RACIAL DISTRIBUTION

Most of the writers who refer to the subject say that lepothrix is more frequently seen in blondes than in brunettes. Eisner says that individuals with dark axillary hair are usually free from it. This is not my experience. The yellow growth found frequently in blondes is, however, much more conspicuous than the reddish variety. Eisner reported a case in an albino negro, leaving the inference to be drawn that in this case absence of dark pigment permitted the growth of the disease. In the Philippines, Schöbl found the disease in ten out of eleven white men, but says that it seems to be absent in the natives, and that the pigmentation of the skin seems to be a significant point in preventing its occurrence. He makes no reference to its occurrence in the yellow races, but Komorita had previously reported its occurrence in the Japanese in twenty-four of 150 individuals examined.

I have seen no report of its occurrence in negroes, but as already stated, I found it in eight of twenty-eight negroes. These individuals were of all shades from the full blooded black to the mulatto. In all cases the growth was of the reddish variety and was easily seen, though in no case was it very profuse. I had previously seen an albino negro with a very profuse growth of the yellow variety.

#### ETIOLOGY

All writers are agreed that lepothrix is of parasitic origin, though there is no agreement on any one etiologic organism. Neither is there complete accord in attributing it to bacterial growth, though this is the opinion of the majority of investigators. Eisner and Sonnenberg found a gram-positive diplococcus, Patteson a small bacillus best

demonstrated by Gram's stain. Schöbl found in all cultures a gram-positive bacillus of the *Corynebacterium* type which he considers the cause in his cases, though various other bacteria were found with it in varying frequency; staphylococci, sarcinae and occasionally chromogenic organisms.

Waldeyer thought a fungus was the cause and reported finding spores, but no mycelia. Ducrey also thought it was caused by a fungus and not by bacteria, and Le Blaye and Fage stated that their researches permitted them to assert the mycotic and not the bacterial origin.

As a matter of fact, no single organism has been definitely proven to be the cause of lepthrix, and from the variety of organisms found by different observers and the combination of organisms in individual cases it would seem that Schöbl's statement that "it remains doubtful whether or not lepthrix is a disease of one etiology" is as far as we can at present go.

I have made no attempt to find the causal agent in my cases. Cultures from a few cases gave mixed growths of various bacilli, streptococci and staphylococci.

In cases attended by red pseudo-chromidrosis the *Bacillus prodigiosus* was sometimes found as it has been by previous observers.

#### CONTRIBUTING FACTORS

Darier says that lepthrix is found in people who use insufficient care about cleanliness; Waldeyer and Unna, that it is found in persons who are not cleanly or who sweat very much. Crocker's statement that most of his patients were in the medical profession does not, I trust, bear this out. Babes, and Jackson and McMurtrie say that it is found in those who sweat profusely. Schöbl, Balzer and Barthélemy and Hartzell say that neglect of the toilet is not a cause, as it is very common in people who are scrupulous in their cleanliness as well as in those who neglect it. My own experience agrees with that of the latter observers. It is as frequent in scrupulously clean individuals as in dirty ones. It is frequently present in those whose axillary perspiration is slight, but the more luxuriant growths are usually found accompanied by excessive perspiration. Crocker's statement that warmth and moisture are probably essential for its production is undoubtedly correct.

#### CASTELLANI'S DISEASE

In 1911, Castellani described a disease occurring in Ceylon resembling lepthrix, to which he gave the name "trichomycosis flava, rubra et nigra of the axillary regions." In a later paper he stated that he considered it to be a variety of lepthrix. This disease is described in several textbooks under lepthrix, and Ormsby gives it a separate

heading. Le Blaye and Fage consider it identical with lepothrix, though they report no personal experience with it.

Castellani's description says that:

The formations are either yellow or black, or less frequently red; they may be very abundant, and form a yellow or black, or red sheath around the hair. The same patient may have two varieties; the hairs of one arm may show the yellow variety, while the other armpit may present the black type; sometimes the same individual hair may present some of the nodules yellow and others black, or rarely, red. I have not yet observed the three varieties present at the same time on the same patient.

In all other respects Castellani's description is identical with that of lepothrix. The illustrations published with his articles show the typical appearance of lepothrix.

In addition to the black variety, and to the combination of two varieties in the same individual and on the same hair, both of which had not been previously described, Castellani differentiates his disease from lepothrix of the temperate zone by the fact that the nodules are soft and easily removed and by the fact that the hairs are not brittle. As has already been shown, hardness of the growth is not characteristic of lepothrix of the temperate zones. Apparently the descriptions of masses that were soft and easily removed had escaped his attention.

Castellani noted that the disease may subside or disappear on the patient going to a temperate zone, a fact which agrees with Schöbl's observations in the Philippines, that the disease is reduced to a minimum in the cool seasons or at high altitudes.

In his second report Castellani describes "a bacillary-like fungus" which he calls *Discomyces tenuis* and which he regards as the cause of the yellow variety. The black and red varieties he attributes to the same fungus in addition to symbiosis with chromogenic cocci; the *Micrococcus nigrescens* in the black variety, and in the red variety an unnamed coccus resembling the *Micrococcus ruber* of Trommsdorf and the *Micrococcus rubicus* of Hefferan.

If we accept lepothrix as a disease that may be caused by different organisms and combinations of organisms, as in the present state of our knowledge we seem bound to do, the only difference remaining between Castellani's disease and lepothrix of the temperate zones, is the presence of a black variety, and the combination of two varieties in the same individual. The combination of the yellow and red varieties I have frequently seen. In most cases of this combination the red growth so masks the yellow growth that the latter is discovered only by microscopical examination. I have recently observed the black variety in a negative American, a man of 21. In both axillae there was a profuse growth; that in the right axilla, the usual reddish-brown variety, and that in the left, black. Microscopic examination of some

of the hairs covered with the black growth disclosed the fact that on some of them both the red and black varieties were present. The masses were rather soft. As the appearance is that of typical lepothrix, and as the appearance and combination of colors agree with that given by Castellani, it seems probable that Castellani's disease is only a variety of lepothrix, and that this variety is not peculiar to Ceylon or to the tropics.

#### TREATMENT

Wilson's statement that, "the treatment most suitable for this evil is saponaceous ablution" followed by a lotion of oxid of zinc and lime water, is not borne out by the experience of others. Jackson and McMurtrie and Castellani report good results with antiseptic lotions such as bichlorid of mercury, boric acid and formalin, and with sulphur ointment. Hartzell found them of little use unless preceded by shaving, and Crocker observed that shaving and various applications gave little success. This is probably the most efficacious treatment, but if the disease is caused by many of the various organisms commonly present in the axilla, it is natural that it should recur easily.

#### CONCLUSIONS

1. Lepothrix is an extremely common disease.
2. It is common in all classes of society.
3. It is found in all parts of the world, with the possible exception of the frigid zones.
4. It is found in negroes as well as in lighter races.
5. It is probably caused by many different bacteria and combinations of bacteria.
6. Castellani's disease is probably identical with lepothrix of the temperate zones and not a variety peculiar to Ceylon or to the tropics.

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## DESCRIPTION OF ILLUSTRATION

Fig. 1.—Lepothrix. Shows root of hair unaffected, with disease beginning above skin surface.

Fig. 2.—Lepothrix. Shows appearance of usual, moderately developed case. Irregular masses on hair, with intervening uncovered section of hair.

Fig. 3.—Lepothrix. Shows end of hair embedded in sheath of foreign material. A not uncommon appearance in fully developed cases.

Fig. 4.—Lepothrix. Shows rather unusual appearance of sheath of foreign matter, splitting off, but still attached to hair.

Fig. 5.—Lepothrix. Shows radiating lines in the masses attached to hair.

Fig. 6.—Lepothrix. Shows slight sheath of foreign material and a node of trichorrhesis nodosa. A frequent combination.

Fig. 7.—Lepothrix. Moderately developed case with marked trichophytosis.

Fig. 8.—Lepothrix. Shows unusually large masses on hair. Specimen from left axilla. These masses were black. Those in right axilla were orange color.



Figure 1

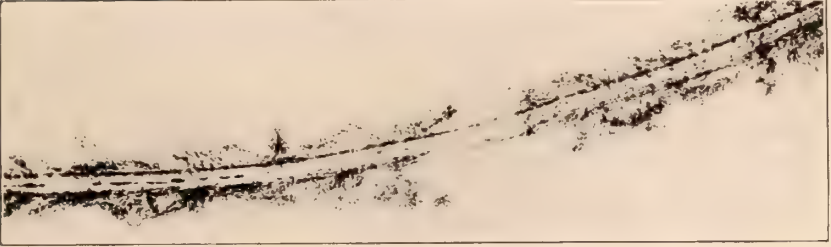


Figure 2

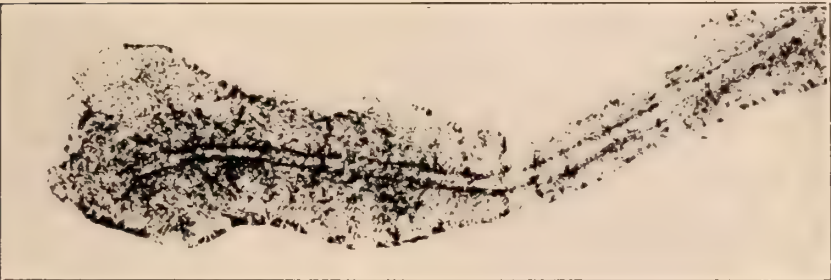


Figure 3

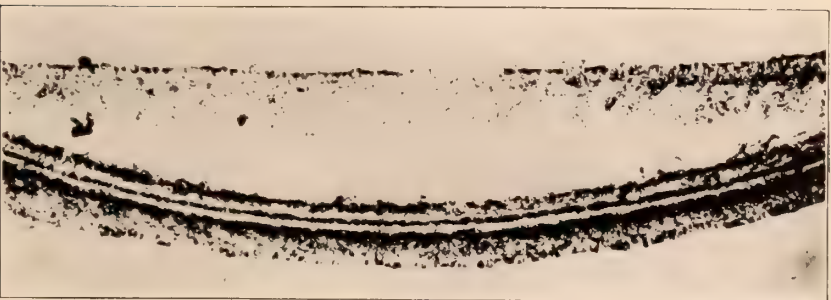


Figure 4





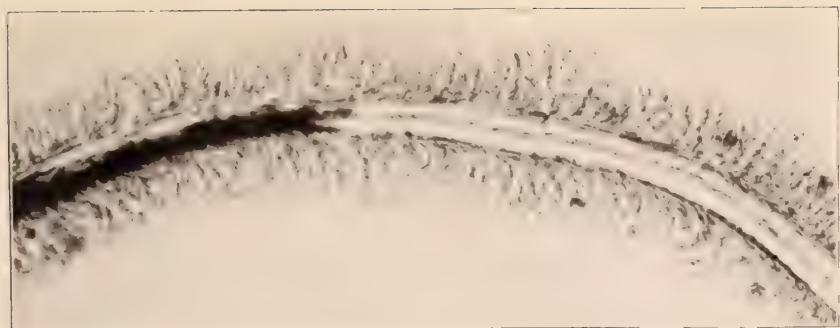


Figure 5



Figure 6

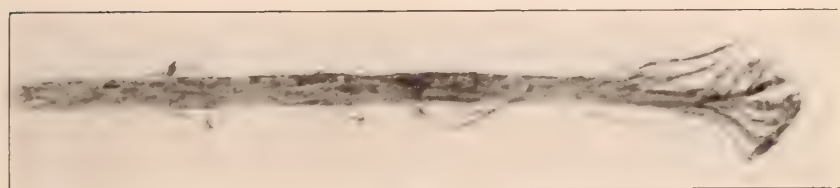


Figure 7



Figure 8



# TREATMENT OF ERYSIPELAS

## CLINICAL NOTES ON EIGHTY CASES

W. H. GUY, M.D.

PITTSBURGH

There have been eighty cases of erysipelas admitted to the hospital and cared for in the dermatological department at Camp Travis, Texas. Various kinds of therapy—local and general—have been applied and with the accumulation of records, comparisons made to ascertain as nearly as possible the advantages or disadvantages of certain methods of therapeutic attack. It is recognized that erysipelas is a self-limited disease, running a variable course, that the average mortality is low, and that further, these patients were men hardened by outdoor life and military training; therefore the writer feels inclined to make certain observations and offer tentative conclusions only.

### METHODS OF INVESTIGATION AND TYPES OF CASES TREATED

To compare results cases were treated in different ways in small groups, and where results seemed favorable, further trial of the method was made. Doubtful cases were eliminated from the series. In so far as possible cases of the same type and grade of severity were used to obtain comparative results. Of the eighty cases treated, sixty-seven were of the usual facial (butterfly) type, and it was noted with interest that eight of these had small nasal ulcerations, three of which were associated with atrophic rhinitis. One case had its origin in a vaccination wound; one in a furuncle of the cheek; one from a gunshot wound of the foot; one from a carbuncle of the neck; four in wounds following operation for inguinal adenitis; one from a laceration above the eye; one from a furuncle of the ear; two as a complication of suppurative otitis media; one from a furuncle of the pubic region, and one from a wound following drainage of a perirectal abscess. The usual onset was with a chill followed by a marked febrile reaction and accompanied by burning, tingling, itching and slight tenderness at the site of the infection. In cases seen within the first few hours, a small glazed pinkish or reddish spot slightly raised above the surrounding integument was noted; later the usual sharply margined, rather indurated, glazed red, spreading area of infection made the diagnosis certain at a glance. Superimposed vesicular and bullous lesions were frequently seen. The margins were not quite so well defined when



the disease was located elsewhere than on the face. A rather unusual case having its origin in a surgical wound following drainage of a perirectal abscess was first seen on the eighth day of the infection. At this time he had a lymphangitis with considerable edema of the penis, and an extending, not too sharply marginated inflammatory area over the left thigh, the areas first involved being clear. The history of onset with a chill, followed by fever and a spreading inflammatory area confirmed the diagnosis. One other very unusual case was seen. A soldier scratched the top from a small furuncle in the pubic hair and two days later had a violent chill followed by a temperature that mounted to 106 F. On examination he was found to have a marked lymphangitis with considerable edema of the penis, the inflammatory process being sharply limited at the base near the furuncle, there having been practically no extension other than over the penis. Local temperature was markedly elevated and the patient noticed slight tenderness and a burning sensation in the involved area. A few fine vesicles were scattered over the surface.

#### TREATMENT

*Local applications* as follows were used from time to time:

1. Ichthyol.
  - (a) Ointment, 10, 20 and 30 per cent.
  - (b) Aqueous solution, 50 per cent.
2. Boric ointment, plain and with the addition of small amounts of menthol and phenol.
3. Collodion.
4. Tincture iodine, pure and diluted.
5. Magnesium sulphate in iced aqueous solution.
6. Phenol (pure).
7. Boric acid saturated iced aqueous solution.

Several cases were given no local treatment whatever and I am inclined to believe from observation and comparison of various local applications that they have but little influence in limiting the spread of the infection, and therefore may be dispensed with. Ichthyol is messy, makes the patient uncomfortable, and is of questionable efficacy. Boric ointment with menthol and phenol is quite as effective, is much cleaner and more acceptable from the patients' standpoint. Tincture of iodine adds to the local discomfort without materially affecting the disease. The same remark applies to collodion. Pure phenol is certainly not comfortable and is of doubtful service. Iced saturated aqueous solutions of magnesium sulphate or boric acid applied on strips of gauze

gave more relief than any other preparation. Of the two, I believe that boric acid solution is the choice. This application is clean, soothing to the inflamed area, and serves, to some extent, as an antipyretic. A pan of the solution containing a piece of ice is kept at the bedside, dressings being changed as soon as they become warm. The disadvantage of this method is that it requires constant attention either on the part of the patient himself or the nurse. However, under its use no secondary skin infections were seen, which fact coupled with the preference of the patient makes it seem worth while.

The *general treatment* was largely symptomatic. A liquid diet and complete rest in bed during the febrile stage of the disease was of course ordered. Patients were sponged when the temperature became excessive. An ice cap was placed on the head to relieve headache when it became severe. Acetyl-salicylic acid was at times given to control the aches and pains incident to all infectious diseases. Quantities of cold water were given. The general condition of the patient was closely watched, particular attention being paid to heart and kidney function. Frequent urinalyses were made, and elimination was facilitated in every way. During convalescence the elixir of iron, quinin and strychnin was given in 2 dram doses before meals. Complications were treated according to their individual requirements.

A *polyvalent antistreptococcic serum* was used in all cases; that 75 per cent. of the cases were favorably influenced is, I think, a conservative estimate. Amelioration of symptoms was too closely connected with the administration of serum to be explained on any other basis. An abortive effect was obtained in two cases seen and injected within the first six hours of the infection. In the majority of cases following the administration of serum there was a fall in temperature, pulse rate, and respiration, followed in the course of a few hours by a slowly mounting temperature, which, however, usually did not reach its original height. At the same time the toxemia was lessened and patients were comparatively comfortable. Second and third injections usually acted in the same way, to the end that the course of the disease was in many cases probably shortened, and in most cases certainly modified as to severity. In about 25 per cent. of the cases serum seemed to have absolutely no effect, and in the majority of cases no particular reason could be assigned for this failure of therapy, but two cases were probably accounted for by reason of general debility, one patient having been in bed for some months as the result of a gunshot wound and the other suffering from pulmonary tuberculosis.

Theorizing, one might consider the possibility of an unusually severe infection or the presence of an unusual strain of streptococcus not antagonized by the antiserum. It was noteworthy in this series

that the earlier the serum was given, the more likely we were to obtain prompt relief. The first few injections were given subcutaneously with rather indifferent results so that we began using the intravenous method. This has the advantage of being almost painless, and the clinical response to serum given in this manner is greater. About 2 c.c. were given subcutaneously as a desensitizing dose and an hour later 20 c.c. given intravenously. In highly toxic cases it has been found to be advantageous to give from 40 to 100 c.c. for the first injection, but in the majority of cases 20 c.c. doses were sufficient.

#### AUTHOR'S OBSERVATIONS

There have been no fatalities in the series. The average febrile period was nine and one half days. Transient albuminuria was seen several times, but two cases showed albumin with granular casts. Cardiac complications were not seen—two doubtful cases were ruled out by the chief of the medical service. Abscess developed in one case. Otitis media suppurativa was seen twice as a complication. Second attacks developed in three instances.

Whether the therapeutic action of antistreptococcic serum is due to its specific antistreptococcic properties or merely the result of the introduction of so much foreign protein I do not know, but I do feel that it is a valuable aid in the treatment of erysipelas.

Pittsburgh Life Building.

## Society Transactions

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### NEW YORK ACADEMY OF MEDICINE, SECTION ON DERMATOLOGY AND SYPHILIS

*Regular Meeting, Jan. 7, 1919*

JOHN E. LANE, M.D., *Chairman*

DERMATITIS PAPILLARIS CAPILLITII. Presented by DR. WISE.

The patient, A. C., a colored man, aged 19, born in the United States, was from Dr. Fordyce's clinic. The duration of his trouble was one year. He presented on the back of his neck a tumor about the size of a small hazel nut, moderately soft and painless and slightly pigmented. Numerous pinhead to pea-sized lesions surrounded the larger lesion. The patient was referred to the roentgenologic department for treatment.

LUPUS VULGARIS OR ERYTHEMATOSUS? Presented by DR. TRIMBLE.

When this young woman first came under observation she was thought to be suffering from lupus vulgaris. She presented one of the rare type of lesions, seen perhaps once in a decade, where it was impossible to determine one condition from the other—whether it was lupus vulgaris or erythematosis. In this case what might formerly have been ulcerations leaving scars, had caused the alae to be bound down and thinned. The small lesion near the ear appeared exactly like lupus erythematosis. This small lesion had been there a much shorter time than the one on the nose. The case was presented to obtain the opinion of the members as to a definite diagnosis.

#### DISCUSSION

DR. POLLITZER thought that the case looked like those described by Leloir a few decades ago, under the name of lupus vulgaris and erythematosis. It was a pretty safe guess when you had a case resembling lupus erythematosis in which there was a fair amount of nodular infiltration in places, suggesting lupus vulgaris, to conclude that you were dealing with a true tuberculosis. In his opinion this disease was lupus vulgaris, not erythematosis.

DERMATITIS EXFOLIATIVA FOLLOWING ADMINISTRATION OF ARSPHENAMIN. Presented by DR. LAU (by invitation).

The exhibitor said that this was the second case of the kind seen in his service at the naval hospital. The patient had a course of five treatments with arsphenamin and then an interruption, then a course of six arsphenamin treatments. The dermatosis began after the last administration. It was also noticed that the patient had a very poor peripheral circulation. A similar case seen last spring, started as an ordinary erythema or arsphenamin dermatitis, and later developed an exuding surface in the cubital spaces and axillary folds, followed by dermatitis exfoliativa; it was more severe than the case presented. The first case developed after the administration of American arsphenamin. In the present case the patient was treated in France, and though he had not been able to learn definitely what kind of arsphenamin was used, he was under the impression that it was American arsphenamin.



## DISCUSSION

Dr. WALLHAUSER said there was a decided seborrheic crusting present on the scalp and in the axillae; dermatitis seborrheicum should therefore be considered as a possible diagnosis in this case; a mild seborrheic dermatitis being present preceding the administration of the arsphenamin and in which an inflammatory reaction occurred as the result of arsenic, which from experience we knew occurred occasionally in dermatoses of this type during arsenical treatment.

Dr. CHARGIN agreed with the diagnosis of dermatitis exfoliativa following arsenical poisoning. He had seen several cases; one, an elderly gentleman, who had received six injections of neoarsphenamin at intervals of a week, developed an acute dermatitis of the entire body, persisting for from two to three weeks, followed by desquamation and ending in death. Another, at Mt. Sinai Hospital, in Dr. Goldenberg's service, a young man with an equally extensive dermatitis with shedding of hair and nails, cleared up entirely. Subsequent reinjections in this case again brought out the dermatitis. The others were of milder type and recovered completely.

Dr. TRIMBLE said that he had seen two cases. One developed after the administration of imported arsphenamin some time ago, and he had heard of one or two others which he had not seen. He considered that there were two types of this condition; a mild and a severe form. Each case that he had seen had shown an exfoliating dermatitis, though there seemed to be a mild and a severe form. The patient seen some years ago developed a typical exfoliating dermatitis all over the body, but cleared up in a month or six weeks. The condition developed after the fourth injection in a series of six, and the patient came to the hospital at weekly intervals until it cleared up. The other case was under the care of Dr. Rothwell. In this instance the skin symptoms were just like those of the former case, only the systemic symptoms were severe—high temperature, severe diarrhea, and shedding of the hair; the patient would probably shed the nails later. This case seemed to be on the road to recovery.

In another case which he had heard about, the patient had a very severe dermatitis exfoliativa with constitutional symptoms, though the condition finally cleared up. The affection seemed to follow either a very severe or a very mild course. The speaker thought we should try to find out in every instance what kind of arsphenamin had been used, and any additional data which would enable us to understand these cases more thoroughly.

Dr. ROTHWELL, referring to the preparation responsible for the dermatitis said that Captain Lâu implied that Metz' American arsphenamin had caused the eruption in the patient from the naval hospital. The case presented tonight resembled one in which he was very much interested, and which had just been referred to by Dr. Trimble. The patient was sent with a report of a positive Wassermann reaction and an eruption. The speaker did not feel sure that it was a syphilitic eruption, but in the face of the positive Wassermann reaction, he felt warranted in giving the arsphenamin injections. Three weeks after the sixth arsphenamin injection (arsenobenzol), the patient appeared with what seemed to be an acute generalized lichen planus. In a week after that she was peeling all over the body, so that probably the lichen planus was only preliminary to the dermatitis exfoliativa. When the sixth arsphenamin injection was given, a specimen of blood was taken before connecting the arsphenamin apparatus, and from that blood a negative report was obtained. The papulo-squamous eruption cleared up right after the early arsenobenzol injections. At that time it was thought that the diagnosis was probably syphilis; but on looking back now one wondered whether the papulo-squamous eruption which the patient had when first seen might not have been simply a forerunner of the dermatitis exfoliativa. The speaker said that he was disinclined to believe that the arsphenamin he gave was responsible for

the eruption. In the hospital they had another patient who developed a dermatitis exfoliativa after the fourth arsenobenzol injection. That was the second case he knew of developing after the use of the Philadelphia preparation. This patient also peeled very freely. In a third case out of the five that he had had to deal with, or know of, that were connected with the Philadelphia product, he could not recall the circumstances. Dr. Daniel Sinclair of New York, three or four years ago reported a case of dermatitis exfoliativa after the use of European arsphenamin. Apparently any one of the arsenical preparations might be responsible for a dermatitis exfoliativa. Possibly any one who, for one reason or another, was susceptible, might develop a dermatitis exfoliativa. The patient referred to had fifteen or twenty bowel movements a day. Her temperature went up to 105 F., the pulse went above 120, and she had a delirium like that of typhoid fever, so that she had to be watched lest she jump out of the window. After that condition had lasted for five days, her pulse and temperature went down; at present she is peeling and is losing her hair.

DR. PAROUNAGIAN said that he had been much interested in the question of whether one or another make of arsphenamin had anything to do with these cases of dermatitis exfoliativa. In one case seen last summer the patient had a positive Wassermann reaction and was given 0.3 gm. of imported arsphenamin, and the following week, 0.35 gm. Then he had to leave town and did not have his next treatment until the week following. When he returned, he had vesicles on the forearms and on the forehead. As it was summer, and he had been in the country, and as there were not many vesicles, it seemed probable that it was a rhus eruption, and no thought was given to its possible connection with the arsphenamin, so a third injection was given. The following day a bullous eruption developed, followed by dermatitis exfoliativa and the patient shed his hair and nails and was sick for almost three months.

DR. BECHET said that in all of the cases discussed the eruption had apparently taken the form of a dermatitis exfoliativa. He had had a patient with syphilis in private practice who developed a severe bullous eruption within thirty-six hours after a third injection of 0.6 gm. arsenobenzol, given at weekly intervals. The eruption was very severe, even involving the mucous membrane of the mouth. Some of the bullae were quite large, a few measuring an inch in diameter. Within three or four weeks the eruption had cleared up entirely. It seemed to the speaker that the cutaneous and constitutional mishaps occasionally following arsenotherapy were more frequent from the German arsphenamin made in America than from Dr. Schamberg's preparation.

MAJOR KLAUDER (by invitation) said that in his experience most of these cases of arsenical dermatoses were followed by symptoms of arsenical poisoning. The toxic effects of arsenic were varied, and hence the symptoms were variable. Particular mention should be made of itching after an injection of arsphenamin, prolonged and severe reactions, paresthesia and anesthesia, tenderness of the palms and soles. The speaker regarded these eruptions as manifestations of the toxicologic effect of arsenic following a too intensive administration of arsphenamin. Many such cases had been reported by Brooks and Leslie, in 1901, concerning arsenical poisoning occurring among beer drinkers. It was important to remember in this class of cases that the further administration of any form of arsenic was contraindicated.

DR. TRIMBLE said that when arsphenamin was first used they made routine examinations of the urine; after it was found that arsphenamin rarely did any one any harm this routine was omitted in hospital service, and after a time was also dropped in private practice. He was now beginning to think that this routine examination of the urine might be a good thing in all cases taking the injections. Some of the by-effects may be due to faulty elimination; a patient might receive a dose of arsphenamin and in five days or a week all

of the dose may not be eliminated. A second dose was given, and before that was entirely eliminated a third dose was administered, and so on. In this way the arsphenamin may have a cumulative effect. If we found the patient had bad kidneys, we could give a smaller dose, or perhaps have the intervals between injections longer.

DR. BECHET said that the point raised by Dr. Trimble was very interesting. About two weeks previously he had made an abstract of an article by Paul Duret in the *Annales des maladies veneriennes*, going into the details of arsenical elimination. Duret found that the proportion of arsenic eliminated was greatly inferior to that injected. The greatest quantity found in the twenty-four hours after the injection of 90 gm. was 0.012 gm. His conclusions after the analysis of a number of cases were, that the elimination of the arsenic through the urine was very slow, amounting to only one fifth of the total amount injected. In one case arsenic was found in the urine twenty days after the last injection.

DR. POLLITZER said that we had seen cases of dermatitis exfoliativa following all of the different preparations of arsphenamin, and the cutaneous reaction did not seem to him to bear any relation whatever to any particular brand or make of that drug. Again, when one considered the millions of cases of arsphenamin treatment, and the very few cases of dermatitis exfoliativa, one could not but admit that it was an extremely rare accident in which other factors besides the drug were of paramount importance.

As to the relation of the dermatosis to the dosage, it had been his practice for four years or more to treat all of his patients with full daily doses of arsphenamin on three successive days. In the last five years he had not seen a single case of dermatitis exfoliativa. In his own practice he had had three cases of dermatitis exfoliativa following arsphenamin administration, all of which occurred between five and eight years ago. Soon after we began to use arsphenamin he had the most severe case that he had encountered. At that time, treatments were administered weekly; the patient had some slight itching and redness of the skin, to which no importance was attached when the second dose was administered. He then developed the most intense generalized dermatitis exfoliativa and was in bed for two or three months.

As a matter of fact, we did not know what produced this disturbance in a given case. Let us be frank in admitting our ignorance. To call it anaphylaxis was a misuse of that term.

DR. LANE asked whether this patient showed any disease of the kidneys, either before the administration of arsphenamin or during the attack of exfoliativa dermatitis. He agreed with Dr. Pollitzer that it hardly seemed likely that this condition should be due to any particular preparation of arsphenamin, but that it was simply due to the toxic effect of arsenic. Practically the same condition had been seen after the use of mercurial injections, and in the one or two cases of that which he had seen, the urine showed evidences of nephritis at the time of the eruption.

DR. LAU, replying to Dr. Lane, said that in the first patient seen last spring, the urine showed acute nephritis, and ran a course almost similar to that in the patient quoted by Dr. Trimble with regard to loss of hair and nails, and diarrhea. It was noticed that after the administration of the second dose of arsphenamin, the patient developed an extraordinarily marked dermatological Herxheimer reaction. In spite of this reaction another intravenous arsphenamin treatment was administered on the following week. This was followed by a generalized erythema, which developed into an exuding dermatitis in the cubital spaces and axillary folds, and gradually developed still further into a classic dermatitis exfoliativa.

Owing to the very recent admission to the hospital of the case presented, the urine report was unavailable. This case clinically was of a much milder type than the one seen last spring.



DR. LAPOWSKI said that he had never seen such an extensive dermatitis with impetigino-pustular lesions and such a severe keratosis of the palms, nor did he know of any such case published. After mercurial rubbings we may see severe dermatitis, but rarely after injections of mercury, and only in cases with idiosyncrasies to the drug.

DR. LANE replied that he supposed that exfoliative dermatitis following the injection of mercury was a well recognized condition. Besnier recognized it years ago, and said that in their clinical manifestations the cases were not different from those of unknown etiology, and Brocq said that these eruptions when following mercury may be generalized and last for several weeks or even months. While they were not common, they were certainly not unknown in the literature. The few cases seen by the speaker were very similar in appearance to the case under discussion.

DR. CHARGIN said that about a year ago, Dr. Goldenberg showed before this Section a case of dermatitis exfoliativa undoubtedly resulting from the administration of mercury. This was proved on several occasions and in different ways. Soon after the patient's recovery from the first attack of dermatitis, and in order to convince themselves that the eruption was indeed of mercurial origin, he received 1 minim of a 10 per cent. suspension of mercury intramuscularly, which was followed by an acute dermatitis of the entire body. Following his recovery from this attack, they further experimented by rubbing in very mildly a small amount of unguentum hydrarg. ammoniat. on his forearm. This was followed by a marked local reaction. They then lost track of him until recently when he returned with an acute dermatitis of the entire body. Inquiry revealed the fact that he had just recovered from influenza, and investigation showed that his physician, not knowing of his sensitiveness to mercury, had prescribed calomel.

#### LUPUS ERYTHEMATOSUS. Presented by DR. ROTHWELL.

The patient, a mulatto man, aged 39, from the University and Bellevue Medical College Clinic, presented on the nose and cheeks a well defined patch of thickened, at some points pitted skin, presenting, especially at its borders, patulous follicle mouths, and covered at other points with hard, dense, adherent scales, more verrucous in character than was usual. The condition had been present four or five years and had been attended with slight itching. At various times, cauterization and applications of carbon dioxid snow had been applied. No history of tuberculosis was obtainable, either in the patient or in his family.

*Biopsy:* Thinning of the epidermis was present in the depressed area; hyperkeratosis, the keratotic material extending down into widened follicle mouth; round cell infiltration, which was rather extensive, around these follicles; the blood vessels were congested in the areas of exudation; the elastic tissue appeared normal; no elastic tissue was present in the infiltrated areas.

#### DISCUSSION

DR. TRIMBLE said that when the patient was first seen at the clinic he did not think that it was lupus erythematosus, but regarded it as probably tuberculosis. It was then more warty than it was on presentation, and it was thought to be either blastomycosis or tuberculosis verrucosa cutis. The former was eliminated, but not the latter. A specimen was taken and examined microscopically. The pathologist reported that the section resembled erythematous lupus more than anything else, so it was presented as an unusual type of that disease.

DR. ABRAMOWITZ said that the presence of verrucae in the lesions was very interesting. In a case seen at the Vanderbilt Clinic the eruption when it first appeared looked like an erythema iris; after a while some of the lesions on the face became verrucous. The biopsy showed microscopically a picture more closely resembling lupus erythematosus than that of any other dermatosis.



LUPUS ERYTHEMATOSUS DISSEMINATUS. Presented by DR. LAPOWSKI.

This case had been shown twice before to the Section during the last year. It was first presented as a case for diagnosis, with the suggestion that it might be a lupus erythematosus. The Section did not express its opinion, but accepted the tentative diagnosis. The second time it was again presented as lupus erythematosus, but Dr. Wise suggested that it was epidermolysis bullosa of the dystrophic type. Later he wrote and asked that the case be again presented, because on questioning the patient he discovered that she had some bullous eruption that would support the diagnosis of epidermolysis bullosa. The patient had bullae during the treatment with iodine, which was applied in the beginning, and it was those she reported to Dr. Wise. This subject of epidermolysis bullosa dystrophica had received much attention in the last few years.

The patient was 9 years old. The mother and father were living. The mother was examined, and presented no dystrophic manifestations. The father could not be examined. The family consisted of eight children. One sister—Sophie—presented a scrotal tongue, more pronounced on the borders than in the center. When the patient was 18 months old, she had summer complaint, meningitis, and, when 3 years old, varicella. The present disease was of four years' duration, starting on the neck, disappearing and reappearing, spreading to the arm, and since that time involving the nails and mucous membrane of the tongue and cheeks. At no time did she notice any blisters. When the patient was presented to this Section for the first time, the lesions occupied the whole right upper extremity from the shoulder down to the distal phalanges of the fingers. The lesions consisted of pea to dollar size red rings, arranged serpigiously or in indistinct circles or semi-circles, the borders consisting of millet-size, scaly, papular elevations, distinctly separated from the surrounding skin. The skin of the center of these rings was normal. The rings spread, merging one into each other, and after a certain period of time, even without any treatment, would disappear. No subjective symptoms accompanied the lesions. The condition of the nails and tongue was the same at present as on the first presentation, only a good deal paler; many rings had disappeared. The lesions on the right cheek had disappeared, leaving a reddish line. The teeth were in bad condition. Scaphoid scapulae were present. The Wassermann blood reaction was negative.

#### DISCUSSION

DR. POLLITZER said that the lesions in the mouth seemed to fit in very well with the diagnosis of lupus erythematosus, and in view of that fact he would be inclined to accept that diagnosis for the cutaneous conditions; but clinically there were two conditions in this patient. The lesions on the arms were not those we were accustomed to see in lupus erythematosus; they were uniformly small, discrete, not scaly, and showed no signs of atrophy. In short, it would never have occurred to him that with these lesions one was dealing with a case of lupus erythematosus. It would puzzle him still more on looking at the finger nails; onychogryphosis was not a feature of lupus erythematosus.

One must bear in mind the fact, however, that lupus erythematosus varied greatly in its superficial aspects. It had been compared with syphilis in its imitating characteristics. Accordingly, in view of the fact that we had in this patient a condition which one would not hesitate to accept as lupus erythematosus of the mouth, one may be inclined to regard the whole condition as lupus erythematosus. On a more casual inspection one would hesitate to pit an opinion against Dr. Lapowski, who had studied the case for many months.

DR. TRIMBLE inquired whether Dr. Lapowski had examined the scales from the arms to learn whether the case might not possibly be a parasitic condition.

DR. LAPOWSKI replied that he had examined them several times, with negative results.

## LYMPHANGIOMA CIRCUMSCRIPTUM (THREE CASES). Presented by DR. TRIMBLE.

CASE 1.—The patient, K. S., was a young girl, aged 6, born in the United States. The lesion was first noticed at the age of 3 months. It grew rapidly up to the present dimensions, which were about  $3\frac{1}{2}$  by  $2\frac{1}{2}$  inches. The location was the right latero-posterior aspect of the neck. The lesion was composed of a plexus of dilated lymphatics, lymph vesicles, and many blood vessels. The treatment consisted of twelve applications of radium, of an average of thirty minutes each using a 10 mg. applicator. The result was excellent, only a very mild erythema remaining, which would likely disappear in time. Photographs before and after treatment were shown.

CASE 2.—The patient, L. D., was a little girl, aged 6. She was born in the United States, of Austrian parents. The lesion was located on the left side of the neck, and was about the size of a silver half dollar. It consisted of a group of deep seated lymph vesicles, with some enlarged blood vesicles. The treatment consisted of twelve applications of radium, of an average of thirty minutes each, with a 10 mg. applicator. The result was excellent, only a slight whitened area remaining. Photographs before and after treatment were shown.

CASE 3.—The patient, G. B., was a young woman, aged 24, born in England. The lesion had existed practically since birth, and consisted of several plexuses of lymphatic vessels with outlying lymph vesicles. One, the larger of the lesions, was situated on the elbow flexor; other smaller ones on the flexor aspect of the forearm. The lesion in the bend of the elbow had been unsuccessfully operated on in childhood, leaving a greatly distorted and hypertrophic scar. At the time the patient was first seen, the lesion consisted of several verrucose plaques that protruded from the surface about one-quarter inch; in this area were lymphatic vessels, dilated blood vessels, and scattered lymph vesicles. An extensive plexus of lymph and blood vessels could be felt underlying the lesion. The treatments consisted of seven applications of radium, of an average of forty-five minutes each, with a 10 mg. applicator. The result was excellent. The hypertrophic scar still remained, though somewhat flattened. Photographs before and after treatment were shown.

## DISCUSSION

DR. TRIMBLE, in presenting these patients said that the cases were all typical of the condition, and he felt that the results were very gratifying. A number of short radium exposures were made—from eight to twelve—of about half an hour each, not one long exposure.

DR. LAPOWSKI inquired about the scar in the case of the young woman—what changes were noted there.

DR. TRIMBLE replied that of course he had not seen the original condition, but the young woman described it very well. A surgeon had performed an operation for the removal of the lymphangioma circumscriptum, which should never have been done. The growth returned, and she said that it was even worse than before. When it first came under his observation the area was badly distorted and scarred. The lymphangioma could have been entirely removed by radium. It was his purpose to pursue the case further from the standpoint of the scar, for radium was said to have a beneficial effect on hypertrophic scars of various kinds. The young woman was very much pleased with the result as it stood, for previous to treatment the lymph exuded and stuck to her clothing.

## COLLOID MILIUM. Presented by DR. TRIMBLE.

The patient, presented at the December meeting as a "Case for Diagnosis," was a white man, aged 57, born in the United States; he exhibited on the alae of the nose, more especially on the left side, a soft, rather translucent, dull-red and pinkish lobulated area, some of the lesions showing slight central pitting, the whole eruption being confined to the portion of the ala immediately adjacent to the naso-labial fold. There was a history of seven months' duration; no history of syphilis; no history of miscarriages by his wife; the Wassermann test was negative. There was practically no effect from antisyphilitic medication.

*Biopsy:* Sections show areas in which the epidermis is flattened, with obliteration of the pegs. Beneath this is an area of normal papillary tissue. Surrounding and between the hair follicles and sebaceous glands are bundles of altered connective tissue separated by blood vessels and narrow strips of normal connective tissue. The nuclei within these bundles appear as normal connective tissue cells. With connective tissue stain (Weigert) elastic fibers are numerous between these bundles, and there are scattered elastic fibers through the bundles. In places these fibers are short and thick and curved. With the fuchsin picric acid stain these bundles take a yellow stain and not the normal connective tissue stain.

## DISCUSSION

DR. LAPOWSKI inquired what had been done for the case during the past month.

DR. TRIMBLE replied that nothing had been done, and that the present appearance was due solely to the course of the disease.

DR. LAPOWSKI said that in December he had hesitated between the diagnosis of blastomycosis and lupus; today, he would say it belonged to the large class of lupus.

DR. TRIMBLE said that the case was brought again before the meeting by special request, as many of the members were interested in it. In the meantime, he had had a biopsy made, and the pathologist reported that so far as could be determined it was a case of colloid milium. He said that he was inclined to accept this diagnosis, and rather felt that some of them at the clinic should have recognized it before. At first, however, they were under the impression that it was possibly an atypical form of epithelioma.

DR. LAPOWSKI said that the pearly condition scattered through the area was a very interesting circumstance, and Dr. Trimble was perfectly right in saying that colloid milium should have been considered before. However, we saw so few of these cases that it was not altogether surprising. Now that the mistake had been seen and recognized, how could we avoid similar mistakes in the future? Did colloid milium give a round, sharply limited spot? Were the milia in colloid milium soft, as in this case? The speaker said that he would like to have the case studied further by some dermatologist who was well versed in skin pathology.

DR. TRIMBLE said that Dr. Jessup was a most excellent pathologist, and working at the Skin and Cancer Hospital he had naturally more experience in skin work than most general pathologists. He had made a great many skin sections, and was considered a very competent man. He studied these conditions most carefully in the textbooks and general literature and by comparison with other slides, and his conclusions in this case seemed sufficiently authoritative to decide the diagnosis.

He said, further, that he had seen two or three cases of colloid milium, and in all the lesions had been on the face. He had been much interested in these cases, and had insisted on a laboratory examination.



CASE FOR DIAGNOSIS (GUMMA OF THE THIGH). Presented by  
DR. LAPOWSKI.

The patient, N. B., presented for the first time on March 4, 1913, was suffering from a gumma of the thigh and leg. He was re-presented on Oct. 7, 1913, and on Jan. 6, 1914. Some members of this section questioned the diagnosis, suggesting tuberculosis of the skin. The patient had been treated with calomel injections, rubbings, and intravenous injections of nearsphenamin during 1913 and 1914. The Wassermann reaction at that period, before treatment, during treatment, and after treatment, was always negative. The lesions healed in the middle of 1914, and since then no treatment was administered, only occasionally potassium iodid internally. The scars were the remnants of previous lesions. The small ulcer in the popliteal region was of several weeks' duration.

## DISCUSSION

DR. LAPOWSKI said that six years ago this patient was presented with a diagnosis of syphilitic gummas. It was a question at the time whether it might not be a tuberculosis of the skin. The patient was treated for three years with calomel injections, nearsphenamin, and the lesions closed completely. The Wassermann reaction was always negative. The lesions had been healed for four years, but a small ulceration had appeared in the scar, where the tension was the greatest.

Within the last two years, the man's brother has been under treatment with a tertiary manifestation of syphilis and a +++ Wassermann reaction. That suggested a very good clue, as the brothers were together for a long time in their boyhood.

It may have been that the healing of the lesions was due to the daily treatment in the hospital, but that alone was not sufficient. In spite of the negative Wassermann test, the diagnosis of syphilis seemed justified.

DR. ROTHWELL said that the puckered, keloidal appearance of the scars on the back of the man's thigh made him hesitate to express the opinion that they were syphilitic. He could not recall having seen such scars after a gumma. He did not see the case when it was first presented, six years ago. The man had always had a negative Wassermann reaction, according to Dr. Lapowski's statement. Were it tuberculosis, it might have that keloidal appearance in the scar.

DR. LAPOWSKI said that the patient had been in Bellevue Hospital in 1912. He had lesions on the leg—ulcers—and grafts were made from his brother's skin. The grafting did not take, and the scarring was the result of the grafting. Sloughing did not result in such a scar. Tuberculosis was possible. Usually in tuberculosis one found lesions reappearing in the scar region.

## CASE FOR DIAGNOSIS. Presented by DR. ROTHWELL.

The patient, a white man, presented at the December meeting as "pityriasis rosea of the neck," was 29 years old; he presented principally on the neck, between the lower jaw and the clavicle, various sized circinate lesions, from a 10-cent piece to more than a silver dollar in circumference, with pinkish, scaly borders which were slightly infiltrated. Since last shown, most of the lesions had increased in size, and while three or four circinate lesions on the forehead at that time had disappeared, several dime sized, dull and greasy looking circinate lesions had appeared on the chin below the mouth and on the cheeks. Slight seborrhea was evident through the scalp. There was a history of ten weeks' duration. Two examinations for spores and mycelia proved negative.

## DISCUSSION

DR. TRIMBLE said that this patient also was again presented by special request. The lesions had become larger since they were first shown. A tenta-



tive diagnosis of pityriasis rosea was made, and the patient was referred for further study. When first shown, some of the members thought it was pityriasis rosea, and others thought it was tinea or seborrheic eczema. An examination of some of the scales was made, which proved negative. Since then scales from half a dozen different places had been examined, and all had been negative. The case stood as it was before, with a tentative diagnosis of pityriasis rosea of the neck alone.

DR. POLLITZER said that pityriasis rosea rarely appeared on the neck, even when it was generalized. To have a case of pityriasis rosea with lesions on the neck and also on the face where it never occurred, would be extraordinary indeed. Since tinea had been excluded, that disease may be disregarded. In his opinion it was a case of syphilis. The infiltration was usually more marked than appeared in the present case. Still, there was here a certain amount of infiltration, and one should seriously consider the diagnosis of syphilis, the more as the epitrochlear glands were markedly enlarged.

DR. PAROUNAGIAN said that he understood no Wassermann test had been made on the patient. He had thought of tinea circinata, but the patient did not complain of itching. He agreed with Dr. Pollitzer that it was a case of syphilis.

DR. CHARGIN said that in view of the negative laboratory findings of the scrapings, the diagnosis of syphilis should be considered, but the points that spoke against syphilis should be borne in mind. The patient stated that the eruption began with small spots, which gradually became larger, clearing at the same time in the center. This did not fit into the picture of a syphilid. Furthermore, except in an annular syphilid which clearly this was not, one did not see in syphilis such complete rings.

DR. LAPOWSKI asked how the lesions looked in the daytime—any different from the appearance at night? In the artificial light it seemed to him there were certain shining papules. He thought it may be a lichenoid syphilis, but that one very seldom saw localized in one area to such an extent. If in the daylight one could see lichenoid papules, he would say the disease was a lichen. He advised a careful comparison of the appearance of the lesion at night and during the day.

DR. TRIMBLE asked if Dr. Lapowski referred to annular lichen planus, and on being answered in the negative, said that the members of his service were grateful for the discussion. It was an exceedingly interesting case, and it had occurred to them that it might be an annular syphilid. The appearance was exactly the same day and night, excepting that at night it was a little more intensified. The border was a little more raised than at the last meeting, and the center was a light lemon yellow color, something like what pityriasis rosea should be from the descriptions—circinate lesions with pink, slightly raised borders, fawn colored centers that wrinkle up like cigaret paper. No distinct papules had been noted, however, in the border or any outlying papules. As Dr. Pollitzer had said, if it was pityriasis rosea it was a unique example. That was the reason it was brought up for discussion. The case would be unique if it were syphilis located just here and nowhere else, namely, confined strictly to the neck.

**SCLERODERMA.** Presented by DR. WISE.

The patient, A. J., a man, aged 44, born in the United States. was from Dr. Fordyce's clinic. One year ago he noticed swelling of two fingers of the right hand. The scleroderma involved the face, neck, chest, forearms, hands, thighs and legs. In addition to the hands being swollen and painful, they were also cold to the touch and stiff. Associated with the scleroderma were numerous areas of pigmentation and depigmentation. The former more marked on the face, appearing like a chloasma, the latter appearing on the neck as a reticulated mottling.

## TUBERCULOSIS CUTIS VERRUCOSA. Presented by DR. ROTHWELL.

The patient, a white man, aged 48, presented a warty hypertrophy on the index fingers of both hands, the general outline being more handlike than plaquelike. The condition had been present nine years, gradually becoming more extensive. No history of pulmonary involvement, either in the patient or his family, was obtainable.

## TUBERCULOSIS CUTIS VERRUCOSA? Presented by DR. ROTHWELL.

The patient, a white man, born in the United States, a policeman, aged 51, presented on the outer aspect of the upper end of the tibial region an infiltrated patch, the size of the palm of the hand, with festooned border, distinctly margined, dark red in color, under a verrucous roof.

*History:* The patient reported that while under treatment for some "stomach trouble" during several months at Bellevue Hospital, he had had several negative Wassermann tests, and had gained 40 pounds in weight; that he had a negative spinal fluid reaction while under treatment; that he had never had any venereal disease. The condition was very itchy and had always been dry.

## DISCUSSION

DR. PAROUNAGIAN said that the case was extremely pruritic and did not seem to have sharply defined borders, and suggested the possibility of hypertrophic lichen planus.

DR. ROTHWELL, replying to an inquiry, stated that a biopsy had been made, and the report would be submitted later.

## LIVEDO RETICULARIS IN BROTHERS. Presented by DR. CHARGIN.

The younger of the two brothers was 11 years old, while the older was 14. The condition had been present since birth and was especially marked on the inner aspects of legs, though no part of the body was entirely free. The heart was negative in both children, and there were no subjective symptoms. The father of the children was similarly affected; his heart was likewise negative. There was neither history nor evidence of syphilis in the father and his Wassermann reaction was negative.

## DISCUSSION

DR. CHARGIN said that it was not a very rare condition, being noted quite frequently in children, especially among those living in institutions. This condition was explained either on a mechanical basis, there being an interference with the normal circulation causing a stagnation in the areas of "reduced circulation," which thereby produced the bluish red rings with clear centers (this can be brought about through vasomotor disturbances or may be dependent on a cardiac abnormality); or it may be that there was an interference with the circulation in these areas of "reduced circulation" consequent on toxic substances (tuberculosis, syphilis, etc.), producing the changes in the capillaries—the so-called inflammatory livedos. These cases belonged apparently to the first group, and seemed to be the result of a vasomotor disturbance.

## ACRODERMATITIS CHRONICA ATROPHICANS. Presented by DR. WISE.

The patient, E. S., aged 52, was a woman, born in Russia, but who had lived in this country for the past seventeen years. She presented herself at Dr. Fordyce's clinic, stating that the duration of her trouble was four years. The hands presented reddish discolorations with slight boggy swellings; the forearms and arms showed patches of violaceous cutaneous atrophy and areas of depigmentation. Similar patches were present on the feet, the back and on the left breast. The patient complained of tingling and pain of the finger tips.

## LICHEN PLANUS (IN A NEGRESS). Presented by DR. TRIMBLE.

The patient, a negress, aged 36, presented a generalized eruption of a very slight scaly condition on a papular base, spread over the body from the lower jaw to the feet. The general impression conveyed on first inspection was a mottling of her dark skin with lighter colored blotches. There had been considerable itching, and the eruption had been present about six weeks. She had had two children and five miscarriages, and her Wassermann reaction was negative.

## DERMATITIS MEDICAMENTOSA (BROMID ERUPTION). Presented by DR. HAILPERIN.

The patient, a white Russian woman, aged 45, presented on the face, arms, trunk and legs various acnelike papules and pustules; one leg presented on its anterior aspect near the ankle, a papillomatous and crusted area of about the size of a silver dollar. The duration was four weeks. A history was obtained of the ingestion of some liquid medicine prescribed by a physician for nervous symptoms, which medicine had been used for several weeks previous to the outbreak.

## PARAPSORIASIS IN PLAQUES. Presented by DR. ROSEN.

Mrs. L. W., aged 40, was born in Russia. She was married; there were three living children and two miscarriages (self-induced). She never had had a previous skin eruption. About one year ago the eruption appeared on the forearms and spread rather slowly until almost the whole body was involved. The eruption consisted of an erythematous-squamous eruption. There was a slight branny desquamation without itching. The patient had used many stimulating ointments, without causing the disappearance of the lesions.

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NEW YORK ACADEMY OF MEDICINE, SECTION  
ON DERMATOLOGY AND SYPHILIS

*Regular Meeting, Feb. 4, 1919*

JOHN E. LANE, M.D., *Chairman*

## LYMPHANGIOMA CIRCUMSCRIPTUM. Presented by DR. ROSTENBERG.

The case was presented as being of interest, since at the last meeting there were three cases of lymphangioma circumscriptum shown which were treated with radium. As not all of us were able to use radium, the speaker decided to try fulguration, which it seemed had not been used in these cases before, CO<sub>2</sub> and galvano-cautery being the usual agents applied beside radiotherapy. He had fulgurated some of the lesions twice and sometimes three times, and the results seemed very good.

## DISCUSSION

DR. POLLITZER said he would be interested to see the case a year from now, for he had doubts as to whether this procedure would cure the condition. It might cure a given lesion, but it is well known that when one group of vesicles was destroyed another would often appear. He would recommend the use of radium.

DR. GILMOUR asked whether there was any history of injury to the child. Some time ago he had shown a case in which there was a history of injury over the shoulder blade, preceding the appearance of a lymphangioma.



DR. ROSTENBERG replied that the mother stated that she noticed the condition when the child was two years old. These lesions belonged to the group of nevi, and were not usually noticed until the child was a little older.

**BENIGN PEMPHIGUS.** Presented by DR. ROSEN.

The patient, Fannie S., presented a series of broken vesicles over the spine, and remnants of vesicles on the chest and abdomen. The eruption in its dry state resembled seborrheic eczema. There were eczematous areas behind the ears. The patient had suffered from the condition for five years. There was no itching and pigmentation was lacking.

#### DISCUSSION

DR. WISE said that the patient had been seen only once, and a diagnosis of benign pemphigus was made tentatively. The bullae broke out without any accompanying pruritus or erythema, and therefore Duhring's disease could not be seriously considered. There were no lesions of the mucous membrane of the mouth or vagina, and nothing to indicate the diagnosis except the bullae on the back and chest. Whether it was pemphigus or a "pemphigoid eruption" could not yet be decided.

**MOELLER'S GLOSSITIS?** Presented by DR. WISE.

S. U., a woman, aged 50, born in Russia and thirty years in the United States, first came to Dr. Fordyce's clinic about six weeks ago, complaining of abdominal cramps before movements of the bowels, and at the same time pain and a burning sensation of the tongue. The Wassermann test was negative. The lesions were evanescent, coming and going (there was very little to be seen on presentation) and there was pain on eating sharp foods. The disease had existed for a number of years, and Moeller's glossitis was the only diagnosis that seemed possible. The patient had been treated by a number of physicians without benefit. Examination of the blood did not reveal any signs of pernicious anemia.

**MULTIPLE BENIGN CYSTIC EPITHELIOMA OR ADENOMA SEBA-CEUM?** Presented by DR. WISE.

M. S., colored, aged 33, was born in the West Indies, and had been ten years in the United States; she presented herself at Dr. Fordyce's clinic, January 27. According to her statement the lesions on the face had been present all her life. The gumma on the knee had been present for the past four months. Her Wassermann test was +++++. The lesions on the face consisted of several dozen deeply pigmented, pinhead to lentil-sized, soft, flat nodules, located chiefly below the eyes.

#### DISCUSSION

DR. WISE said that he presented the diagnosis with a question mark, as they had not yet been able to get the biopsy report, which would be submitted at the next meeting. The diagnosis was made on the appearance of the lesions and the history.\*

DR. POLLITZER said he would prefer to await the biopsy report, as a diagnosis of benign cystic epithelioma had not occurred to him. The lesions were uniformly small, which was not the rule, and they were rather firm, which was never the case in benign cystic epithelioma. The diagnosis could only be made by a biopsy.

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\* Biopsy proved the lesions to be ordinary soft moles.



## PERMANENT ALOPECIA, RESULT OF ROENTGEN-RAY TREATMENT. Presented by DR. PAROUNAGIAN.

The patient was a boy, aged 10, born in Russia. He had had some trouble on his head, presumably ringworm or favus, and he was living in a home or orphanage. Some one took him to an institution or hospital, and roentgen ray was applied to the scalp, resulting in loss of hair over a large area. As to the exact time this treatment was given, the patient was unable to tell as he was too young to recall.

## PARAPSORIASIS IN PATCHES. Presented by DR. CHARGIN.

The patient was a well nourished male child, aged 3, with a history of pneumonia one year ago, followed by empyema for which he was operated; in other respects the history was entirely negative. The child presented an eruption of three months' duration which persisted despite energetic local treatment. The eruption covered the neck, reaching into back of the scalp, the face, back and sides of chest, lateral aspect of abdomen, buttocks, upper and lower legs, and upper and lower arms. The hands and feet were entirely free. The lesions varied from the size of a pea to confluent patches palm-sized and larger, the larger areas being noted especially on the sides of the chest. The borders of the lesions were sharply outlined and the condition was in no wise infiltrated. The color was light red or yellowish red. There was a moderate amount of scaliness, thin and dry in character. There were no subjective symptoms.

## DISCUSSION

DR. WISE said that parapsoriasis was the first diagnosis which would suggest itself, but the presence of eczema on the face would make one hesitate. The lesions on the body and face were identical, and exactly simulated parapsoriasis in an adult. Though he had never seen it in children, he understood that cases had been reported. If he were pinned to a diagnosis he would call it seborrheic eczema.

DR. POLLITZER said that his first impression was that it was a case of parapsoriasis, and he saw no reason to question that diagnosis. It was obvious, however, that such a diagnosis under the circumstances—the extreme youth of the patient, should be fortified by a period of observation. It would be interesting to know what it looked like in two or three months. The effect of treatment might materially modify the diagnosis. The fact that there was an associated eczema on the face might have a very important bearing on the diagnosis, but the process on the general surface did not seem to be an eczema. Of course, there was a possibility that it was a premycotic condition, but the apparent freedom from itching opposed that view.

DR. CHARGIN said that in his opinion the lesions in this patient exhibited all the characteristics described by Brocq as parapsoriasis en plaques. The lesions were scattered over the entire body, were slow in evolution, sharply defined, reddish and slightly scaly; and there was no evidence of scratching, pointing to the absence of itching. The lesions were not infiltrated. Moreover, the child had had the condition for three months, and local application seemed not to influence the condition in the slightest. There was no evidence of eczema, for here one would expect to see some indication of vesication, scratching or moisture. Parapsoriasis seemed to fit into the diagnosis. He did not know whether mycosis fungoides occurred in children of this age, but one would expect marked itching in mycosis. Parapsoriasis had previously been reported in children. The speaker said that he would try treatment with the Kromayer lamp and would report progress at some future meeting.

## CARBOLIC ACID GANGRENE. SARCOMATOUS DEGENERATION?

Presented by DR. SCHEER.

The patient, Morris D., age 60, said that about fourteen weeks ago he had picked the tip of the ring finger of the right hand. He applied a lotion of phenol of unknown strength as a wet dressing, which he kept on for an hour. He then removed the dressing, and noticed a black discoloration of the tip of the finger. Six weeks later the terminal portion of the phalanx fell off. The stump did not heal, but remained swollen, red, and bled easily. It presented a granulosomatous appearance and suggested the possibility of sarcomatous degeneration.

## DISCUSSION

DR. ROSTENBERG expressed a doubt that carbolic acid had been used. The patient stated that when the dressing was taken off the finger was black. Carbolic acid left a white eschar. It may have been sulphuric acid. The growth appeared to be a granuloma with possible malignant degeneration.

DR. GILMOUR thought the lesion resulted from a carbolic gangrene of the skin and subcutaneous tissues. He had seen many such in Roosevelt Dispensary. The lesion seemed to him to be simply exuberant granulations on the end of the finger. He did not think it was sarcoma. The constriction and tightness of the skin below the granuloma were due to the scar caused by the original burn.

DR. WISE said that the point brought out by Dr. Abramowitz was most important. The man had a small black spot, presumably a melanotic sarcoma or whitlow of the finger nail which he pricked, causing a rapid proliferation of the tissue. The finger was going to be amputated, and the pathologic report would be presented at the next meeting.

DR. POLLITZER said that two different things seemed to be under discussion; one, the objective features presented by the finger at the time of presentation; and the other, the story of the black spot which the patient pricked. Can any one tell us what was the nature of that black spot? Had it been there a long time, or was it a splinter or other foreign body which had gotten under the skin? It was important to know what that was. Of course, if the man had a melanotic sarcoma present on the finger for some time when he pricked the lesion, with the result that the present condition developed, one would be obliged to accept the diagnosis of malignant growth. On the other hand, the statement that he had a slight lesion which was treated with a carbolic acid application and that when this was removed an hour or two later the finger was black, was a typical story of carbolic gangrene. That the finger was black after the application of the acid was simply owing to the strength of the solution. The skin became white if pure phenol was used; black, if the usual dilute solution had been employed.

Replying to an inquiry as to the best treatment, the speaker said that he would amputate the finger not very far away from the lesion; if he thought it was a malignant condition, he would amputate at the shoulder joint. That however, was a matter for the surgeon to decide.

DR. BECHET said that Dr. Pollitzer had mentioned that a black eschar after a carbolic burn was perfectly possible. In corroboration of this fact, he recalled having seen a completely mummified, jet black finger, following a severe phenol burn. He thought that the hypertrophic granulation tissue in this particular case was of pyogenic origin, possibly a granuloma pyogenicum. In his opinion the lesion bore no resemblance to a sarcoma.

DR. LANE said that there was granulation tissue present, but that the lesion could not be called granuloma pyogenicum, in the usual meaning of that term. Granuloma pyogenicum was a typically pedunculated granuloma.

DR. SCHEER agreed with Dr. Pollitzer that the history of the case was sufficient to account for the lesion, without considering a possible malignancy.

## FOR DIAGNOSIS: LESION OF THE PALATE. Presented by DR. WISE.

The patient, Mrs. A. E., aged 27, called at the Vanderbilt Clinic with a lesion on the palate which she said had been there for two years. The left side of the hard palate presented a sharply circumscribed area of denudation, the size of a 25-cent piece, the surface seeming to be stippled with follicular excrescences. The location suggested the possible diagnosis of lupus vulgaris. The Wassermann test was negative.

The patient had had some treatment with trichloroacetic acid, without effecting any change in the appearance of the lesion. The little bodies with which it was studded suggested the diagnosis of lymphangioma circumscriptum. Nevus seemed to be the most probable diagnosis. Had it been lupus vulgaris it would have spread and presented the typical nodule or apple jelly appearance. Some one had suggested lupus erythematosus, but one would not expect that to be present for two years. It seemed safe to consider it a lymphangioma circumscriptum.

## DISCUSSION

DR. POLLITZER did not consider it a lymphangioma circumscriptum. The vesicles in lymphangioma on a mucous surface usually attained very considerable size, and there was a general boggiessness of the whole affected area, which was characteristic. He had never seen a lymphangioma affecting the mucous tissue without producing a great deal of swelling and hypertrophy.

As to vascular nevus, one would expect that to appear a little earlier than the 24th or 25th year of life. He suggested lupus erythematosus as a probable diagnosis, but thought that a biopsy should be made before a definite conclusion could be reached.

DR. WISE said that he would have a biopsy made if the patient would consent, and would report the findings at the next meeting.

## CHICAGO DERMATOLOGICAL SOCIETY

*Regular Meeting, October 16, 1918*

DAVID LIEBERTHAL, M.D., *President*

## PERNIONES AND ERYTHEMA INDURATUM. Presented by DR. LIEBERTHAL.

The patient, a woman, aged 20, had suffered from an affection of the fingers for the last six years, which appeared every fall, persisted throughout the winter and disappeared completely in the spring. It was accompanied by itching and burning. Three years ago lumps developed on her legs which caused no discomfort. She had always enjoyed good health and at no time had enlarged glands. There was no history of similar skin affection or tuberculosis in her family. The patient's examination revealed no diseased condition, except that of her skin, which at the time of presentation showed the following condition. The dorsa of the fingers, especially over the distal phalanges, showed bluish red, slightly raised, irregular spots of about dime size, with smooth surfaces. On the lateral side of the terminal phalanx of the left small finger there was a group of three pinhead-sized yellowish firm nodules. Each calf was the seat of three bluish, hazel to walnut-sized, firm, round nodes. Exposure of the lesion to ultraviolet rays produced improvement on the hands and legs.

## DISCUSSION

DR. McEWEN believed the condition was probably tuberculous. One lesion on the hand suggested a so called dysidrosis, but this might change its type.



He had noted a prominence of the eyes, but had not found on further examination any marked evidence of vascular disease. He asked the members how frequently they had observed an erythema induratum.

DR. LIEBERTHAL said that this case might be studied in comparison with the chilblain lupus of Hutchinson and the so called lupus pernic of Besnier. He was of the opinion that the lesions of the fingers were as much connected directly or indirectly with tuberculosis as those on the legs. Chilblains were an expression of congestive hyperemia and stasis which might heal before reaching a higher stage of development leading to destruction. Erythema induratum was usually nonulcerative, but here and there a case was found which did ulcerate.

DR. ORMSBY said the recognized idea was that the lesions underwent regression with atrophy, or ulcerated, leaving a scar. Erythema induratum was a scar forming disease in most cases.

SCLERODERMA. Presented by DRs. ORMSBY AND MITCHELL.

The patient, a woman, aged 39, had suffered with the disorder for twelve years. It began on the right side of the abdomen in an area about 4 inches in diameter. Later similar patches developed over the chest above the breasts and over the abdomen. On the legs below the knees, the skin was smooth and shiny, atrophic and boardlike, with a complete absence of the normal color. On each hand there was deep-seated muscular atrophy with a very little involvement of the skin. Flexion of the fingers was impossible. The involved areas over the breasts and other portions of the body showed enormous thickening with entire loss of elasticity of the skin, moderate erythema, and in some places beginning whitening of the skin. There was always a well defined margin between the sclerodermatous and normal skin. The peculiar changes in the muscles of the hands and fingers were not like those found in sclerodactylia, but must have been a part of the sclerodermatous process.

#### DISCUSSION

DR. ORMSBY stated that there were two types of generalized scleroderma, one the edematous which cleared up, and the other the atrophic which did not clear up. He presented the patient because he wished the opinion of the Society regarding prognosis and the involvement of the muscles of the hand, and because he hoped to get suggestions as to therapy.

DR. McEWEN had no suggestions as to therapy, but believed the prognosis was not very good. He asked what the patient had shown in the way of nervous symptoms. He called attention to the fact that the changes in the hand, the fulness at the base of the fingers and on the back of the hand, were not unlike those seen in leprosy.

DR. LIEBERTHAL stated that he had seen a considerable number of cases of scleroderma. Those beginning with swelling justified a better prognosis than others. Some cases healed without any treatment whatever. The administration of mesentery glands (coeliacin) which was highly recommended in European literature proved of no benefit in his hands. The best treatment after all was massage and heat.

DR. ORMSBY believed that in some cases improvement could be had with thyroid extract. Two or three of his cases had recovered while on this treatment, but whether they recovered on account of the time that had elapsed rather than on account of the treatment he did not know. Dr. Hektoen had done some work in these cases and had shown that there was sometimes a connection between the thyroid gland and scleroderma. The patient would be tested for syphilis and probably given some treatment. He was sure that massage and electricity had been of some value in many cases. It was his



opinion that in this case where the lesions were symmetrical and occurred in such large patches, and on account of the atrophic condition, the prognosis was guarded if not bad.

#### MORPHEA. Presented by Drs. ORMSBY AND MITCHELL.

The patient, a woman, aged 50, had had the disorder for six months. The lesion consisted of a bandlike area about 2 by 4 inches on the inner side of the right arm, with a second and smaller patch on the forearm. The large area was yellow in color and extended in its larger dimension from above downward, being surrounded by a violaceous tinted border. The more recent patch on the forearm was just beginning to show changes. The case was shown for comparison with the preceding case and showed the difference in the two types of lesion.

#### TUMOR ON THE THUMB. Presented by Drs. ORMSBY AND MITCHELL.

The patient, a woman, aged 54, had had the lesion for seven years. Previous to its development an infected area occurred which developed "proud flesh." This was removed and the area later healed, leaving a red spot about the size of a pea which had been present since that time. A year ago the red area began to enlarge and a month before presentation became infected through a pin prick. The lesion consisted of an elevated oval, pea-size mass, soft in consistency, and having a dull red color throughout and was situated on the dorsal surface of the left thumb immediately back of the nail. Subjective symptoms were absent, except for an occasional feeling of pulse beat in the area.

#### DISCUSSION

DR. McEWEN thought it might be a tuberculous lesion. If it had not been of such long duration he would consider it a hypertrophic granuloma.

DR. LIEBERTHAL asked if it could be a granuloma pyogenicum.

DR. ORMSBY said a granuloma pyogenicum was usually a pedunculated tumor and bled. He thought it might be a sarcoma or angiosarcoma, and feared the lesion was malignant.

#### PECULAR PRURIGINOUS DERMATOSIS. Presented by Dr. LIEBERTHAL.

The patient, a man, aged 44, had had his skin disease for about eight years. It had caused intensive itching which subsided from time to time for a short interval, especially so after new treatment was instituted. He was otherwise in perfect health. No cause for the dermatosis could be found. The skin of the face, neck and extremities was slightly thickened and beset with numerous bloody crusts which capped small nodules. Here and there a round, flat, split-pea sized nodule of recent development could be distinguished.

#### DISCUSSION

DR. QUINN believed all the lesions that were present had been produced by scratching, and thought it was probably due to some pus infection of the hair follicles as it is confined to the hairy regions.

DR. STILLIANS had thought of lichens urticatus in connection with the case because of the papules capped by blood crusts on the external surface of the limbs. He asked if it cleared up at times.

DR. ORMSBY stated that the lesions in this case were characteristic of a group of cases observed by him and which were difficult to properly place. He thought dermatitis herpetiformis could be ruled out here. In all the cases the lesions were present chiefly on the extremities and were inflammatory nodules always irritated by scratching induced by intense itching. They were very

persistent and rebellious to treatment. The location of the lesions, their persistence, recurrence and intense itching resembled somewhat the cases described as urticaria perstans. This group, however, was confusing and some of its members had been removed and classed with the cases now known as prurigo nodularis. The cases under consideration were not examples of the latter disorder as in these, the lesions undoubtedly persisted indefinitely. The lesions in the cases similar to Dr. Lieberthal's cleared up and new ones appeared, but the process was indefinite as to duration. There was little evidence of an urticarial element present, the characteristics being intense itching and inflammatory nodules and papules. Roentgentherapy and arsenic had been employed with temporary improvement.

DR. LIEBERTHAL said that he had not yet made a diagnosis, but had been thinking of various things. He ruled out dermatitis herpetiformis as much as prurigo. He was going to make a bioscopic examination of a lesion and to present the patient again after a longer period of observation.

#### LEG ULCER. Presented by Drs. ORMSBY AND MITCHELL.

The patient, a man, aged 62, was first seen in February, 1918. At that time the skin of the right leg from the knee to the ankle was involved with various lesions, the condition having been present for three years. On the upper internal surface was a morphealike patch. Immediately below this was a large ulcer with irregular projections extending over its surface, presenting the appearance of an epithelioma. Over the remaining area there existed a weeping dermatitis. A section from the clinical epitheliomatous area showed only inflammatory changes. There was marked acanthosis, but no true epitheliomatous proliferation. Under treatment with the Alpine lamp for a period of several months the entire process subsided and at the time of presentation there was little evidence of trouble aside from the morphealike band at the upper part of the involved area.

#### DISCUSSION

DR. QUINN thought the treatment had produced a beautiful result.

DR. LIEBERTHAL believed there was a scleroderma with a subsequent ulceration and considered the case very interesting. He thought that with the poor circulation in that area the result had been wonderful. He asked if roentgen-rays had been used before they saw the patient.

DR. MITCHELL stated that the patient had received a lot of irritative treatment before coming to them. He had been told he had syphilis and had been given very energetic treatment for that disease. He had been sent to the physician who referred him to them as a case of syphilis.

DR. ORMSBY had at first believed that the patient had an epithelioma on the inner side of the leg. They decided to clear up the dermatitis first, but for many weeks the case had looked hopeless. Under constant treatment with the Alpine lamp, the case began to improve and finally the area healed. There had been no change in the manner of dressing the leg but the patient had been away for two weeks on a vacation, which might have assisted in the improvement. The technic of the treatment was to place the center of the lesion 12 inches from the light. At first treatments had been given twice a week, but later only once. The discharge diminished very rapidly under this treatment.

#### DERMATITIS HERPETIFORMIS. Presented by Drs. ORMSBY AND MITCHELL.

The patient, a girl, aged 12, was said to have had pemphigus since the age of 3 years. When first seen by the speakers (August 30, 1918) she was a well nourished child, covered all over with lesions, bullae and vesicles arranged in herpetiform groups, and accompanied by intense itching. There was a high eosinophil count. She was given a series of autoserum injections without

improvement. For a period of three weeks before presentation she had received liquor arsenicalis and very marked improvement had occurred. Although the case had been considered pemphigus from the beginning, it was placed as dermatitis herpetiformis on account of the good condition of the patient, the length of time the disease had existed, the peculiar arrangement of the lesions, the intense itching which had been present for many years, and the lack of effect on the general health in such a generalized serious cutaneous disorder.

## DISCUSSION

DR. LIEBERTHAL could not understand how the case should have been considered one of pemphigus. It was a clear case of dermatitis herpetiformis, although more stubborn and severe than those usually observed. The pronounced grouping of the lesions, the excellent general health of the patient and the prompt relief on administration of arsenic ruled out pemphigus.

DR. QUINN agreed with Dr. Lieberthal that it was dermatitis herpetiformis but that it was difficult to draw the line between Duhring's disease and pemphigus, and that the cases that recovered were dermatitis herpetiformis and those that succumbed to the disease were pemphigus.

DR. ORMSBY had considered the case dermatitis herpetiformis when he first saw it and had expected it to improve under autoserum, but it did not. He believed the patient would get well some day if treatment was persisted in. He could not understand how the child could have flourished as she had if she had had pemphigus since the age of 3, although she had been treated for a long time by one of their colleagues as a case of that disease.

LUPUS VULGARIS. Presented by DR. WAUGH.

The patient, a man, aged 27, presented scars and active lesions on both cheeks. The lobes of both ears were markedly involved resulting in considerable scarring and loss of tissue. On the lower lip was an area involving one-third of the vermilion border which had been present three years. It was slightly reddened and thickened with moderate tenderness. Radium and roentgen ray have both been used with good results. Tuberculin injections were given with questionable results.

## DISCUSSION

DR. STILLIANS considered it a lupus vulgaris because of the ulceration on the ear.

DR. QUINN thought it was a lupus erythematosus.

DR. ORMSBY believed the lesion on the lower lip was a typical lupus erythematosus. There was considerable destruction in the involved areas about the ears, but lupus erythematosus often produced destruction.

## CHICAGO DERMATOLOGICAL SOCIETY

*Regular Meeting, Nov. 20, 1918*

DAVID LIEBERTHAL, M.D., *President*

PEMPHIGUS IN A CHILD. Presented by DR. YEAKEL.

The patient was a child, aged two years and five months; breast-fed; not sick since birth until the onset of the present trouble. It was first taken sick on October 5 with a cold, coryza, fever, and a desire to lie down all the time; ate very little; complained of headache and backache. A doctor was called on the 13th, who said the baby had influenza. He came again on the 14th, 15th,



17th, 19th, and on his last visit said the child was well. Blisters were first noticed by the mother on the 26th, on the left leg and over the abdomen. The child was sick, wanted to lie down and had no appetite. The bullae increased rapidly in size and in number, spreading all over the abdomen, face, legs, arms and head, as at time of presentation. The speaker saw the patient on October 30 in consultation with Dr. Baxter, who called it pemphigus. He wondered if it might be some complication of influenza. After treatment which consisted of salicylic acid, bicarbonate of soda and oxid of zinc in powder form, the child seemed to improve very rapidly. A few of the blisters were beginning to crust. There was a little bloody fluid in some of the blisters. No other members of the family were affected.

## DISCUSSION

DR. ORMSBY inquired concerning the possible administration of iodine or bromide compounds in this case. The history showed that there had been an acute infection and the possibility of a drug eruption had to be considered. He was not of the opinion that the eruption was produced by the iodides, but it was a safe procedure in an acute bullous eruption, particularly in children, to rule out the question of drugs. In this case there was less inflammatory reaction and less infiltration than was usually seen in bullous iodide cases. Furthermore, it seemed that impetigo could also be ruled out and that pemphigus was the most probable diagnosis.

DR. PUSEY was very much interested in the suggestion of the iodine eruption. He had seen bullous iodine eruptions but the bullae were usually hemorrhagic and there was necrosis of the base. There were never superficial bullae such as the bullae of pemphigus.

DR. STILLIANS wondered if it could belong to the class of cases that come on after vaccination, although this case had much larger bullae.

DR. LIEBERTHAL asked how the curve of temperature was since the eruption developed. He agreed with Dr. Pusey and Dr. Ormsby that in the diagnosis of this case impetigo and drug eruption should be considered. The "cold sore" on the lip of the mother of which there were still remnants of crust visible, might have been an impetigo. In this connection, he recalled a case which was quite similar to this in the infant of a physician in which a diagnosis of pemphigus had been offered. It was ascertained that a little cousin of the patient who had been playing with her before she developed the generalized eruption, had been afflicted with bullocrustaceous lesions of the chin. And subsequently, it was established beyond doubt that the case of the infant was one of impetigo contagiosa. In pemphigus, the contents of the fresh bullae were sterile. When staphylococci or streptococci were found, pemphigus should be ruled out.

DR. PUSEY asked how contamination of the bullae could be avoided.

DR. LIEBERTHAL replied that if perfectly fresh bullae were chosen, and the necessary antiseptic precautions were taken, this could be accomplished.

DR. YEAKEL, in answer to Dr. Pusey's question, said there was no history of a bullous eruption in the family. The mother had had a kind of a cold sore on the lip for some time. Regarding the use of iodine or bromide, he had looked up the prescriptions that were given by the previous attending physician and found they had not been used. Some of these bullae contained bloody serum. The temperature at the onset was 102 F. It gradually subsided so that in four days it was practically normal.

He inquired whether if it should be a bullous pus infection, it would be advisable to remove all the blisters and the skin over them. Would it be best to remove all the serum or not?



## SPOROTRICHOSIS. Presented by DR. ORMSBY.

The patient, a boy, aged 5, had suffered with the disorder for two months. Four other children were in the family and unaffected. The boy played constantly about a stable near his home. The first lesion appeared on the second joint of the index finger and was a nodular swelling which opened after two days poulticing and discharged a sticky yellow material. The lesion remained open. Two weeks later nodules began appearing over the dorsal surface of the hand and upward over the forearm in a line, a total of thirty-seven formed. They varied in size from 5 mm. to 2 cm. in diameter and were round or oval and elevated above the level of the cutaneous surface. Several were lanced, but nothing was evacuated and they refused to heal. On presentation an open ulcer was present on the index finger from which a thin discharge was escaping. The nodules above described were colorless or bluish-red and painless. Cultures made four days previously at the clinics, were just beginning to grow and were typical of sporotrichosis.

## SYPHILITIC ONYCHIA. Presented by DR. QUINN.

The patient, a woman, had an involvement of the nails on both hands and both feet. It started six or seven months ago. She had suffered from some nervous trouble in February, 1918. Both great toe-nails had come off. The disease began on the nails of the index and ring fingers of the left hand. She thought it was something she used in the water which was causing the trouble and consulted a manicurist. Then the affection began on the feet. Scrapings were made, which were negative. The Wassermann reaction was negative.

## DISCUSSION

DR. STILLIANS had thought of a possibility of syphilis in spite of the negative Wassermann test. There were ill defined squamous lesions on the sole but he was not sure until further investigations were made.

DR. ORMSBY stated that he was frequently entirely unable to determine the etiologic factor in cases such as this. He had seen similar conditions in syphilitic cases, and also in patients who were not syphilitic. It was thought that in certain of these cases the nervous system was involved and at times a good result could be obtained by the internal administration of arsenic.

DR. QUINN had been treating the woman for syphilis since September and it had not made any difference. The fingers at times became pale and white, just as in Raynaud's disease. She had been getting potassium iodid and mercury without any improvement. One or two finger-nails were not involved.

## DERMATITIS HERPETIFORMIS. Presented by DR. ORMSBY.

The patient, a girl, aged 12, was shown one month previously at which time the entire cutaneous surface was covered with active lesions, vesicles, and bullae, or relics, pigmentations of dermatitis herpetiformis. When previously shown, it was stated that the patient had suffered with the disorder for nine years and had been treated for pemphigus. The patient was shown at this meeting to illustrate the result of treatment. Five auto-serum injections had been given and arsenic administered internally. There were now no active lesions present, a result that could hardly have been achieved had the disease been pemphigus. Recurrences naturally were expected.

## DISCUSSION

DR. ORMSBY said that this patient was shown in the clinic about six weeks previously with one of true pemphigus. The bullae in the two cases were similar. In the case of pemphigus, however, there were no subjective symptoms

while in this case there was intense itching and burning. It was interesting to know that the pemphigus case began with lesions on the chest and back that were apparently identical with those of bullous impetigo. A very similar case was shown by Dr. Pusey some years ago which cleared up promptly on local antiseptic treatment. In this case such treatment had no effect, nor had autoserum or arsenic. The patient was in the Presbyterian hospital at present suffering with what was apparently a clear pemphigus foliaceus. The point of interest in the case was the absence of secondary infection, which was maintained largely by keeping the skin dry with powder, according to the method suggested by White in dermatitis exfoliativa. In addition, the patient was given a bath which contained potassium permanganate, twice weekly. Under this treatment, the patient had improved markedly; his appetite had increased, he had gained weight and there was no odor to the lesions, although they covered the entire cutaneous surface.

SCROFULODERMA. Presented by DR. ORMSBY.

The patient was a child aged 5, whose disorder had been present for three months. The earliest lesion was described as a "pimple" situated on the upper eyelid on the left side. The lesion enlarged, broke down and became a superficial, crust covered ulcer. Some time after the beginning, a deep nodule developed on the left cheek which was followed by several others.

At the time of presentation, the upper eyelid showed a superficial crust-covered ulcer occupying two-thirds of its surface. There was practically no induration. Five nodular lesions varying from pea to small nut size were present on the left cheek, bluish-red in color and soft in consistency. There were no subjective symptoms. The mother of the patient was hopelessly ill with pulmonary tuberculosis.

This case was presented for comparison with the case of sporotrichosis.

#### DISCUSSION

DR. PUSEY thought it was an interesting case. Although at the present time it was not characteristic, the situation apparently was that there was in the beginning, a tuberculous ulcer of the eyelid which was followed by tuberculous lymphadenitis with cold abscess in the subcutaneous tissues of the cheek. He had never seen a duplicate case.

DR. QUINN believed from the history that tuberculosis was the thing one would think of, but to him it looked much like an acute pus infection. It might be found to be tuberculosis.

DR. ORMSBY thought the remarks of Dr. Pusey covered the ground and believed that had the lesion in the cheek progressed sufficiently to break down, it would be considered an ordinary scrofuloderma. He thought the infection atriun was through the eyelid, which presented an ordinary tuberculous ulcer, and that the subcutaneous so-called scrofulous gummas were due to the direct extension from this focus.

TUBERCULOSIS VERRUCOSA CUTIS. Presented by DR. ORMSBY.

The patient, a man, aged 36, was an inspector of cattle and while on duty cut his finger. The wound was sutured and dressed and subsequently healed. At the time of presentation at the site of the injury, there was a flat pea-sized nodule which was formerly capped by a keratotic crust which had disappeared. In view of the patient's occupation and the fact that there was still an indolent inflammatory nodule present the question of tuberculosis was presented for consideration.

## PEMPHIGUS VULGARIS. Presented by DR. STILLIANS.

A Jewess, aged 36, married, had noticed the first bullae under the left breast eighteen months before. Soon afterward she began to have a sore mouth. On Fowler's solution, she had made some improvement. The patient showed a few small bullae on the abdomen and under the breasts, each one surrounded by a large pigmented zone, the site of a previous lesion. On the inside of the right cheek was a small angular group of white papules and on the hard palate two larger groups of similar papules. On either side of the uvula on the soft palate, was a hemorrhagic macule. The patient stated that if she worked more than a couple of hours a day, she grew worse.

## DISCUSSION

DR. STILLIANS thought the interesting thing was that a case of pemphigus with lesions in the mouth had done so well on ambulatory treatment.

## ELEPHANTIASIS OF VULVA. Presented by DR. McEWEN.

The patient, a Negress and a cook by occupation, aged 30, noticed a soft sore on the vaginal wall two years ago. Later the labia swelled so that a douche tube could not be inserted, and other sores appeared. The vulva was very greatly enlarged and a hypertrophic mass extended below to either thigh for 5 or 6 inches, and to the mons veneris for 3 inches. This whole surface was covered by warty excrescences. Five weeks ago, when she entered the Cook County Hospital, the labii were excoriated with peculiar circinate figures. The Wassermann reaction was negative. Histologically no sign of tuberculosis or blastomycosis was found.

## DISCUSSION

DR. PUSEY thought it was a case of elephantiasis of the vulva, such as was seen not infrequently after a long standing infection of the genitalia in Negroes.

DR. QUINN asked if there was any history of syphilis.

DR. STILLIANS said the Wassermann reaction was negative two or three times. The histological specimen was exhibited and practically nothing was shown by it except a few dilated vessels with some infiltration around them.

## AGMINATE NODULAR SYPHILIS. Presented by DR. McEWEN.

The patient, a housewife, aged 41, noticed a "pimple" on the side of her nose last April, and another on her left ear. These both enlarged gradually. She had been hoarse for two years. Over the whole nose and both cheeks was a heavily crusted weeping area, and about and on the left ear, another. Besides the hoarseness, the patient had a brassy cough, an unequal radial pulse (left very weak) and fluoroscopic signs of aortic aneurysm. The Wassermann reaction was negative. There was a history of one miscarriage.

## DISCUSSION

DR. ORMSBY thought the clinical appearance of this case suggested lupus vulgaris, but on learning that the disease was of such short duration he felt that this could probably be ruled out. He had never seen lupus develop to such an extent in so short a time. Taking everything into consideration, syphilis seemed the most likely diagnosis.

DR. STILLIANS at first thought it was impetigo, but the history ruled that out. The Wassermann reaction was negative.

A biopsy later proved it lupus vulgaris.

## LUPUS VULGARIS. Presented by DR. McEWEN.

The patient, a Lithuanian laborer, aged 33, had a lesion begin as a papule on the cheek seven years ago. It spread rapidly and in ten months had spread over the nose and both cheeks. It was not painful, but itched at times. The nose and both cheeks were covered by a contractile scar which ended in front of the left ear in a gyrated border, and on the right cheek in an irregular line. There was double ectropion and on the right cheek and beneath the chin, deep abscesses. The Wassermann reaction was negative. Histologically there were no signs of tuberculosis or blastomycosis. A long perforation of the nasal septum was present.

## DISCUSSION

DR. STILLIANS stated that where the scales came off the scars were much cleaner, but the abscesses on the side and under the chin were just about the same. He had thought of syphilis. The histologic examination of sections taken from the right cheek, ruled out tuberculosis and blastomycosis. The patient afterward improved very much on antisyphilitic treatment.

## CHICAGO DERMATOLOGICAL SOCIETY

*Regular Meeting, Dec. 18, 1918*

DAVID LIEBERTHAL, M.D., *President*

## VASCULAR NEVUS WITH LATE RADIUM ULCER. Presented by DR. HARRIS.

The patient, a woman, aged 25, began radium treatment in 1915 for a vascular nevus, receiving the last treatment in March, 1918. In October, 1918, a keratotic spot under the outer part of the lower eyelid broke down and formed an oval ulcer 4 by 2 cm. in diameter, which was covered with a yellowish pellicle. The borders were very sensitive. A similar round ulcer 2 cm. in diameter was present on the left ala. The borders of this ulcer were more infiltrated.

## DISCUSSION

DR. STILLIANS thought the lesions looked like radium burns, and he was much interested in their occurrence so long after the exposure.

DR. WAUGH said the ulcer appeared to him as being due to a lack of healing power in tissue of low vitality as it was situated in scar tissue and the underlying structures were largely of a cartilaginous nature.

DR. ORMSBY said that in the early days of roentgen-ray treatment superficial ulceration sometimes occurred several months after healing of the original reaction phenomena. These cases resembled the one shown. It apparently was a breaking down of tissue of low resistance. He had seen this occur two or three times. He had recently seen a woman who had received radium treatment for some ovarian trouble and owing to the position she assumed during the treatment, a severe reaction occurred. Nine months later a typical radium ulcer developed in the area. The vitality of the surrounding tissue seemed to be normal so far as could be seen but the lesion was undoubtedly a radium ulcer. He did not think that the lesion in the present case was an epithelioma.

DR. BEESON wondered if the lesion had been treated with a very small amount of radium or with an applicator. He hardly thought it would have been treated with a tube.



DR. PUSEY thought it was a breaking down due to radium reaction. It had the characteristics of these chronic roentgen ray and radium lesions. He was not opposed to using radium or roentgen rays in these cases of flat vascular nevus. He had seen many cases improve by such treatment.

In regard to the way radium or roentgen rays should be used in leukemia, which some one had brought up, he thought there was no difference as regarded results, as roentgen rays and radium did the same thing to tissues, but practically, he thought roentgen rays much better in reaching wide areas as was necessary in leukemia, because there was no difficulty in getting all the roentgen rays one wanted so that any part of the body can be showered with them. With roentgen rays one was using a machine gun, while with radium one was reduced to a rifle, which could only reach a much smaller area.

DR. STILLIANS asked if there had been much of a burn at the time of the treatment.

DR. HARRIS said that the patient told him there had not been a burn at that time, but the treatment was given by a gynecologist.

#### ACQUIRED KERATODERMIA. Presented by DR. STILLIANS.

The patient, a woman, aged 59, presented an eruption on the toes and soles which had been present for a year and a half. The whole of each sole, except a small part on the inner border, was covered by heavy masses of horny epidermis, in places nearly 1 cm. thick. Painful fissures were present in several places. Similar thickening of the horny layer was seen on the tips of the toes and under the nails.

(NOTE: Investigation revealed plentiful spores and mycelium in the macerated epidermis between the toes.)

#### DISCUSSION

DR. HARRIS thought it looked like an epidermophyton infection but it reminded one of a keratoderma for there was a definite border outside.

DR. QUINN believed it was a keratoderma and that it was present on the palms as well as on the soles. He thought an examination should be made for ringworm.

DR. WAUGH was of the opinion that it was a ringworm infection and thought a microscopic examination should be made.

DR. ORMSBY stated that he had seen a number of such cases since they had been doing the work on ringworm. It was a keratoderma, but in many cases they had found the ringworm fungus and had been able to treat them much more successfully than before. The breaking down between the toes in the fourth interspace was characteristic and the lesions which had formed and spread were typical. He saw one patient who had had such lesions for thirty years but under salicylic and benzoic acid treatment, he entirely cleared up in three months. He believed this was the most probable diagnosis in this case.

DR. PUSEY thought three things should be considered: eczema of the hands and feet, syphilis and ringworm. He believed syphilis could easily be ruled out. The patches were too sharply defined for eczema. It was in all likelihood a ringworm dermatitis with secondary keratoderma. He had learned a lot about ringworm on the extremities in the last few years. Its occurrence was frequent on these parts, but he was inclined to think it was being somewhat overplayed.

In the first place, the benzoic and salicylic acids that acted so magically in these cases were not so extremely useful in ringworm in other places. They were, however, about the best preservatives of fats and he thought their action in these cases was perhaps due to the fact that they prevented the liberation of fatty acids and the irritation which they produced. There were a good many of these cases in which a very careful examination failed to show fungi.

DR. ORMSBY said they sometimes did not find the fungus at first, but it was very rare not to find it ultimately. In this case he thought it would probably be found in the deeper layers. Three days before, he had seen a patient who had a chronic inflammatory process on the side of the trunk, which was about 6 inches in diameter and looked like an erythema with scaling. The patient had a typical history of ringworm of the feet and there was now one active area between the toes and on the foot. Epidermophyton fungi were found in scrapings from both the lesions on the trunk and foot.

DR. HARRIS stated that he had been using iodine and found it very helpful. He asked if the salve was better than green soap for tinea versicolor. He always used that and let the skin peel off.

DR. ORMSBY stated that when patients were treated with chrysarobin, the stained fungus could still be demonstrated several days after instituting treatment, whereas with the salicylic and benzoic acid ointment, the fungus was entirely digested and could not be found after the same period of time. As a rule, the ointment was more effective, but some cases were resistant even to this method of treatment. He had found the ointment effective also in tinea versicolor and preferable to the older methods.

DR. STILLIANS said he had not had such good luck in all cases, for in some, the disease persisted in recurring. He had obtained good results in pityriasis rosea with the same ointment.

DR. LIEBERTHAL suggested sponging the skin daily with cologne water and application of talcum powder to prevent recurrence of tinea versicolor.

#### FOLLICULITIS DECALVANS. Presented by DR. STILLIANS.

The patient, a boy aged 14, had an eruption on the head which had been present for several years. He had been in the County Hospital several months previously and had been under observation for several months since then. The eruption varied in character under treatment, but always recurred. He was born in Chicago and lived in the Chicago Home for Jewish Orphans. The diagnosis of folliculitis decalvans had been made, but was not satisfactory as the pustules occasionally seen about the hairs were very superficial. At times, the case suggested favus very strongly in its appearance, but search for the fungus had always been fruitless.

#### DISCUSSION

DR. PUSEY believed it was a case of favus, although the scaly patches did not look like that disease at present. He thought, however, the fungus could still be found. Scars such as this case showed, could only be produced by favus or a deep cellulitis of the scalp which the boy had not had.

DR. HARRIS thought it might be called a pustular dermatitis of the scalp. It looked like a seborrheic dermatitis except for the scars.

DR. BEESON considered it a favus.

DR. SENEAR agreed with Dr. Beeson.

DR. ORMSBY believed it favus and stated that an occasional pustular dermatitis developed in these cases.

DR. LIEBERTHAL had seen the patient six or seven years ago and at that time it was a typical case of favus. There were no pustules at that time. He had seen cases of folliculitis decalvans with superficial pus-formation.

The case mentioned by Dr. Pusey of deep pustules on the scalp was similar to a patient he had at present. The pustules were no larger than a pinhead but when the hair was epilated a great accumulation of pus was found underneath. The condition was quite stubborn. He recommended the actual cautery for its treatment.

DR. HARRIS recalled the case shown at the annual meeting, of a boy about 8 years old whose whole scalp was covered with a mass of thick scales in which there was a network of mycelia. There were no cups or color to be found. Six months later the case was shown as one of favus with the typical crusts.

ACQUIRED MONILETHRIX. Presented by DR. HARRIS.

A woman, aged 29, for three years had had very severe paroxysmal pain in the eyes and temples and radiating over the head. There was nothing in the nose or eyes to account for the pain. For several months she had noticed that the hair had a peculiar appearance and a tendency to break. With the microscope or hand-lens, the hairs were seen to be distinctly beaded.

DISCUSSION

DR. PUSEY thought it was surprising how often monilethrix was found. He did not see any reason why it should not be an acquired affection—if the nails were affected, why not the hair?

DR. SENEAR was impressed by the fact that the breaks were so close together. In other cases he had seen, there was quite a distance between them.

DR. HARRIS stated that under the microscope one could see where the hair was fractured. The pain she described was persistent. The woman was a school teacher and had had her eyes and ears examined, but nothing was found. The pain was paroxysmal along the temple and in the artery along the neck and there was great tenderness. He thought that at the time of these paroxysms there was an aplasia of the hair so that it came out.

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## Original Communications

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### THE ETIOLOGY OF MOLLUSCUM CONTAGIOSUM. PRELIMINARY REPORT OF EXPERIMENTAL STUDY\*

UDO J. WILE, A.B., M.D.

Professor of Dermatology and Syphilology, University of Michigan Medical School, Ann Arbor

AND

LYLE B. KINGERY, B.S., M.D.

Instructor in Dermatology and Syphilology, University of Michigan Medical School, Ann Arbor

Since Bateman's original description in 1817, but little doubt has existed in the minds of clinicians as to the contagious nature of molluscum contagiosum. The clinical observations of the disease occurring as small epidemics in groups as well as occasionally in members of the same family, leave but little doubt that the disease is transferable from one individual to another.

With the general acceptance therefore of the entity as contagious, it was but natural that search for an infecting organism should be made. Beginning with 1881, various micro-organisms have been described as the causative agents. In this year Angelucci described the *Bacterium lepogenum* as an etiologic factor. In 1886 Neisser declared the bodies to be coccidia and ascribed to them the rôle of the infectious agent. Graham, in 1892, cultivated a micrococcus from molluscum contagiosum, which he regarded as specific. For many decades it was believed that the so-called molluscum bodies represented some unusual form of organism, a belief which still exists in some minds at the present time. From the excellent pathologic studies of Virchow, McCallum, Whitehead, White and Robey, Hartzel, Stelwagon and others, it became certain that the bodies themselves could in no way be related to the infecting organism, as it has been conclusively

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\* Read before the Forty-Second Annual Meeting of the American Dermatological Association, Atlantic City, June 16-18, 1919.



demonstrated that they represent peculiar forms of epithelial degeneration.

From the experimental side, successful inoculation of the material from molluscum lesions is recorded as early as 1841 by Peterson. His initial success, after several unsuccessful attempts, was followed by successful experimental implantation by Retzius, Vidal, Haab, Stanziale, Pick, Nobl, Knowles and others. In all of the experiments recorded by these observers, the inoculations were made directly into

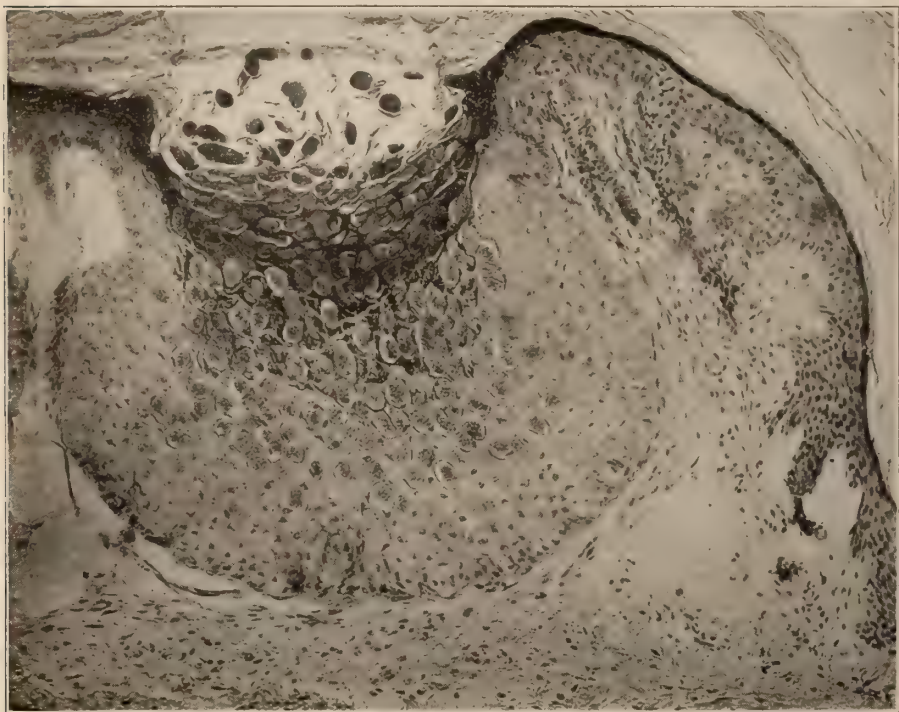


Fig. 1.—Typical molluscum contagiosum lesion taken from source of material of experiments.

the skin, usually by scarification or rubbing of material expressed from the molluscum lesions.

A very marked diversity is recorded in the incubation period before the appearance of experimental lesions. In Retzius' case four months elapsed before the appearance of lesions; in Vidal's, three months; in Stanziale's, three months; in Pick's, ten weeks; in Haab's, six months; in Nobl's, nine weeks, and in Knowles', five weeks. For the most part the experimental lesions were proved by microscopic examination. Nobl's case of successful implantation is perhaps of less value than

others inasmuch as the subject of his experiment already had pre-existing lesions. Notwithstanding these successful inoculations and the general acceptance of the condition as a transmissible disease, searches for a specific organism that would stand all scrutiny have remained negative.

In 1902 Marx and Sticker, in an experimental study of molluscum



Fig. 2.—Experimental lesions as they appeared fourteen days after inoculation, Exper. 1.

epitheliale of fowls and pigeons, a condition clinically and pathologically resembling molluscum contagiosum, were able to reproduce lesions in experimental animals by inoculation of a sterile filtrate of material from pre-existing lesions. The inoculations in these cases were rubbed into scarified areas on the combs of fowls. The authors record an incubation period for this disease of from eight to ten days.

In a further experimental study of the virus, Marx and Sticker demonstrated that it was extremely resistant to heat, light and cold, retaining its virulence under such conditions; and further, that the virulence was maintained when the material was kept for a considerable time in glycerin.

Stimulated apparently by these researches, Juliusberg, in 1905, records having filtered the material from molluscum contagiosum, and by rubbing the filtrate on the traumatized surfaces of the arm of him-



Fig. 3.—Development of molluscum contagiosum. Earliest lesion in development of molluscum contagiosum. Formation of cavity; degeneration of epithelium.

self and two others, to have reproduced lesions following an incubation period of fifty days. There is, however, nothing either photographed or otherwise recorded to substantiate this finding.

Encouraged by our success during the past year in producing epithelial hyperplasia identical with that occurring in ordinary warts, by inoculation of the sterile filtrate of wart substance, we undertook a like study in molluscum contagiosum.



## AUTHORS' STUDY OF MOLLUSCUM CONTAGIOSUM

The technic of our experiment was as follows: The material from molluscum lesions was expressed by means of a curet and ground up with a minute amount (from 1 c.c. to 2 c.c.) of physiologic sodium chlorid in a mortar and pestle. This material was then passed through



Fig. 4.—Development of molluscum contagiosum. Showing cystic dilatation in cross section of a hair follicle and sebaceous gland; hyaline degeneration of lining epithelium.

a sterile Berkefeld filter of the smallest size which could be secured. In order to make use without waste of the smallest possible amount of material, we eliminated the largest portion of the filtering surface of the candle by completely covering its sides with melted paraffin. The paraffin was poured into the glass envelope surrounding the candle,



completely covering all but its upper surface. This gave us a filtering surface of about 1 cm. in diameter. The apparatus was then subjected to negative pressure by means of a suction apparatus attached to a sterile test tube below the filter. The filtrate thus obtained was immediately transferred to slant agar to test its sterility. In all but a single case, in which a contamination occurred from tap water, our filtrates remained sterile.

In our first experiment the filtrate was divided into two portions and injected into the skin of the back of two volunteers, the injections

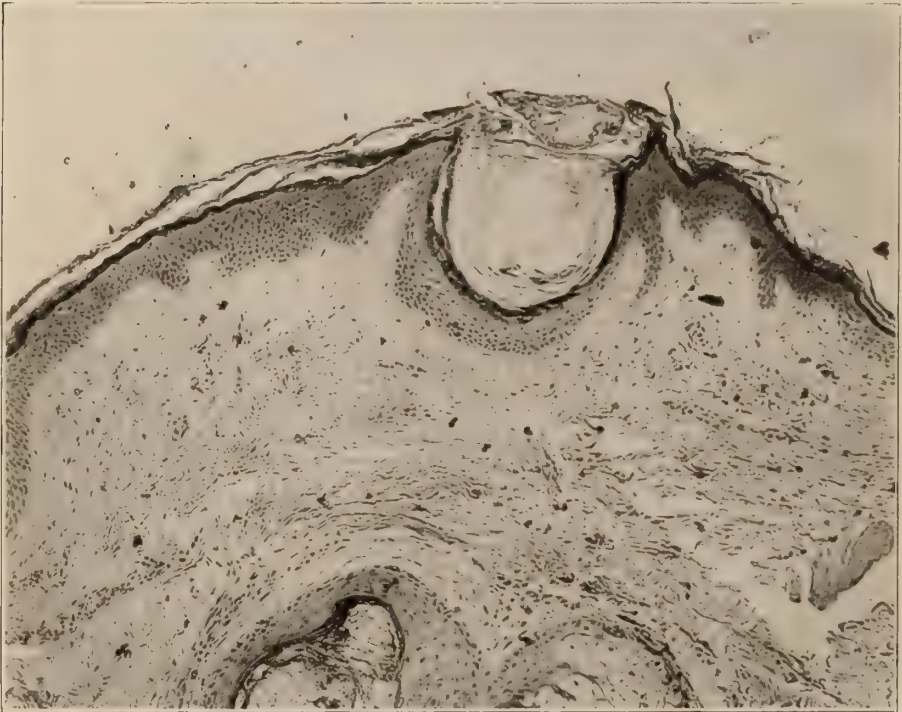


Fig. 5.—Development of molluscum contagiosum. Small, cup-shaped lesion on the surface. Epithelial capsule well formed, detritus inside the cavity. No molluscum bodies.

being made as far as possible intracutaneously by means of a small tuberculin syringe and a very fine needle. One-half of the original material before filtration was placed in glycerin for use in a second experiment.

The persons upon whom the experiments were performed were under close observation for the following ten weeks and were examined daily. In the case of the patient receiving the first injection, erythema and slight infiltration were noticed at the point of inoculation on the

twelfth day. From this time on the lesions increased each day in size and induration. About the fourteenth day they took on the characteristic waxy appearance, although extremely small, of molluscum contagiosum, and the patient also complained of a slight pruritus. About the sixteenth day a clinical diagnosis of molluscum contagiosum could easily have been established (Fig. 2). At this time a first biopsy was done and lesions typical of a small molluscum were demonstrable, except for the absence of true molluscum bodies (Fig. 3). During this



Fig. 6.—Development of molluscum contagiosum. Somewhat later stage, showing well formed capsule; degeneration of cells lining capsule, and slight inflammatory reaction in the cutis.

period no lesions were observed on the back of the second inoculated individual.

About the twenty-first day after inoculation, the second patient began to show at the sites of inoculation over the scapulae, pinhead sized, reddish-yellow papules. A few of these had a faint erythematous areola. These lesions, however, were so insignificant at this time that had we not been looking for lesions to appear, they most certainly would have escaped notice, as they resembled closely the ordinary acneform lesions so frequently seen in this location.

During the next week a few similar lesions appeared over the lower back and in the flanks at the site of the original inoculations. These were quite insignificant, as they were the color of the skin itself, and extremely small in size. All these lesions remained stationary for the three weeks following, at which time it was noted that they became somewhat larger, and a clinical diagnosis of molluscum contagiosum was made. Biopsy made at this time showed absolutely typical molluscum contagiosum with formation of true molluscum bodies. (Fig-

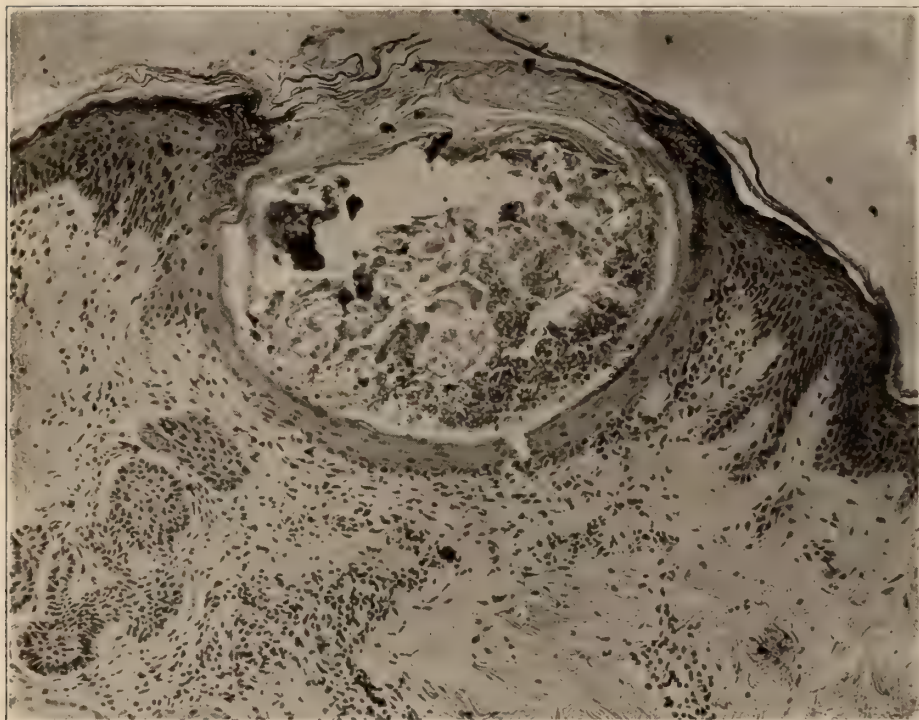


Fig. 7.—Development of molluscum contagiosum. Well formed lesion of molluscum contagiosum; typical, except for absence of true molluscum bodies.

ures 4, 5 and 6.) This finding was established approximately eight weeks from the date of inoculation.

In the first case observed during all this time, new lesions continued to appear, not only at the sites of inoculation, but also scattered over the entire back and chest, undoubtedly conveyed from original lesions by the scratching subsequent to the pruritus of which the patient complained. In all, thirteen lesions were excised from the first volunteer,



and these we think throw an interesting light on the histogenesis of these lesions. It will be noted from the accompanying illustrations that the lesions are identical in all respects with small molluscum lesions except for the absence of the so-called molluscum bodies. Inasmuch as these were found considerably later, in lesions which had remained undisturbed for eight weeks in the second case, we are inclined to believe that they appear relatively late in the formation of the molluscum tumor.

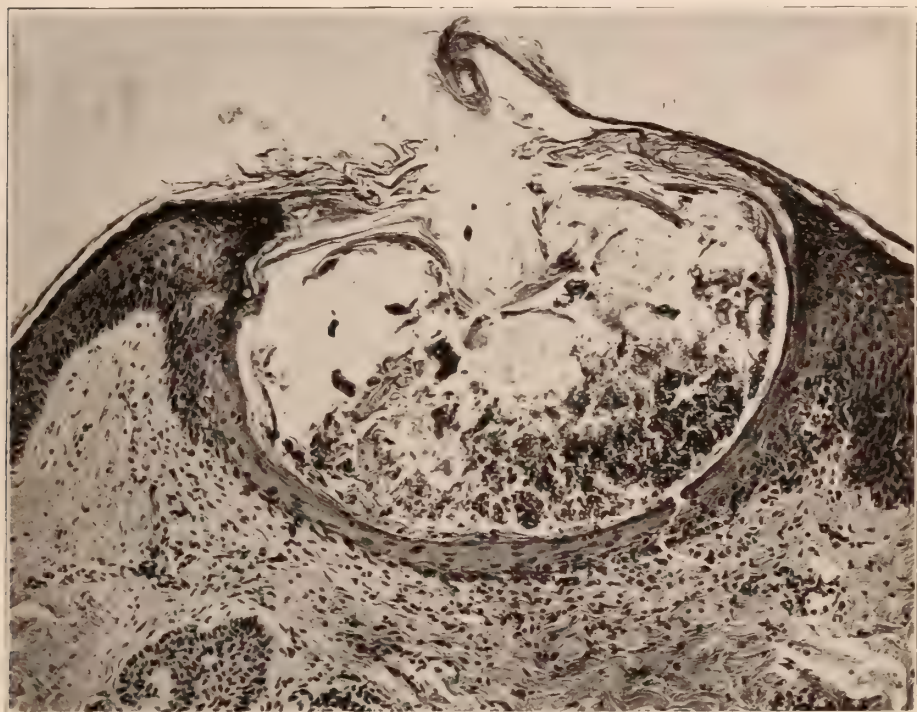


Fig. 8.—Development of molluscum contagiosum. Lesion taken two to three days after last figure, showing increase in size of lesion.

It is not the purpose in this paper to discuss the minute histology or histogenesis of molluscum contagiosum. This will be done by one of us at a later date based on material we have which we think offers unusual possibilities for the solution of this subject. From a superficial study of our sections, however, of which we have many hundred, we believe as was originally believed by many, that the lesions have an intimate connection with the pilosebaceous apparatus. This can readily be seen from a study of the accompanying photographs which illustrate various stages in their histologic development.



Nothing definite being known as to the real nature of so-called filterable viruses, there are no established group reactions for these poisons. It is a well-known fact, however, that certain of them retain their virulence in glycerin. Marx and Sticker demonstrated that the virus of molluscum tumors of pigeons and fowls preserved its virulence indefinitely in glycerin. With the idea of determining this same problem for the virus of molluscum contagiosum, the material gained from the first patient was preserved in glycerin and allowed to remain there

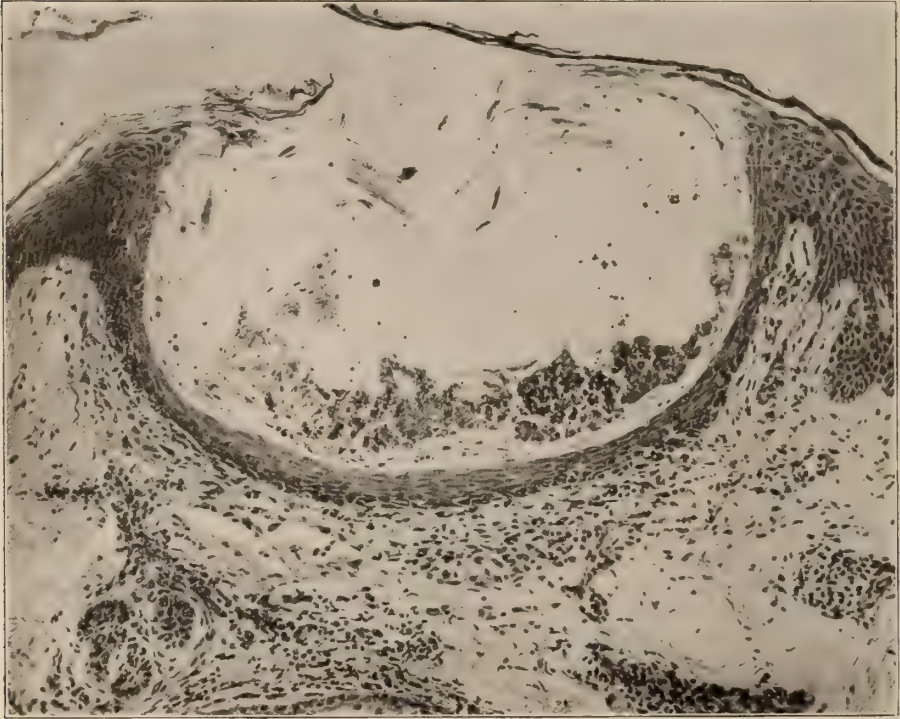


Fig. 9.—Development of molluscum contagiosum, showing similar changes to last figure. Lesion about forty-eight hours older.

three weeks. After this time it was removed, and after thorough washing with physiologic sodium chlorid, was passed through a Berkefeld candle and the sterile filtrate injected into two persons exactly as was done in the first experiment. The persons so injected have been under observation for six weeks, during which time absolutely no lesions have developed in either. This experiment is by no means conclusive; first, because of possible individual susceptibility, and secondly, because a sufficiently long time has not elapsed to permit

us to say that the experiment is entirely negative. We are rather inclined to believe that with sufficient material, the paucity of which has been a great embarrassment to our work, it will be found that the virulence of the virus of molluscum contagiosum is preserved in glycerin.

In order to check up our experiments carefully, we made perfectly certain that in none of the subjects of our experiments were pre-existing molluscum lesions present.

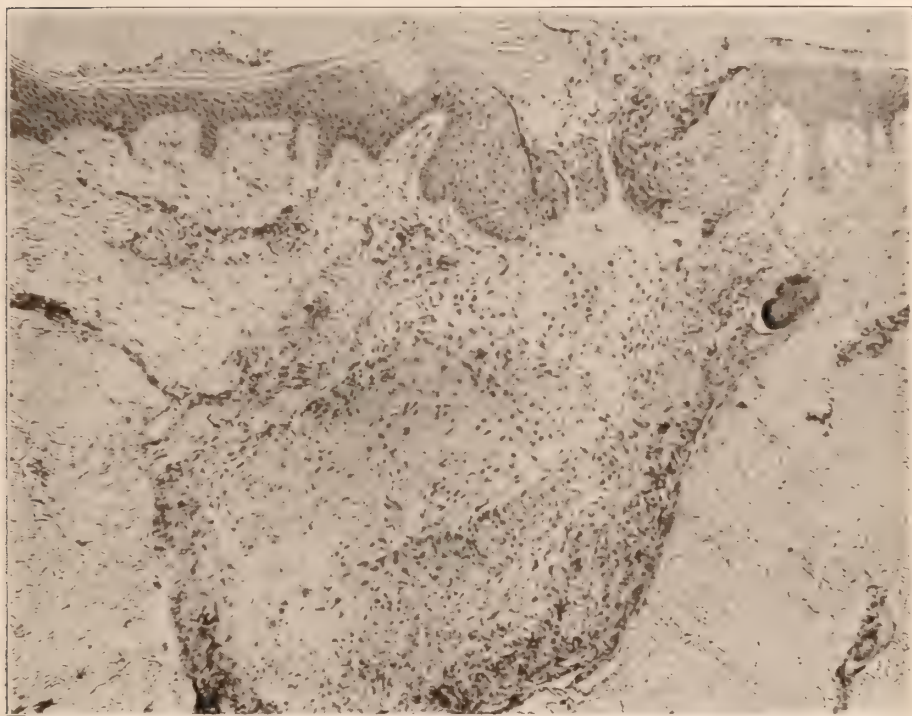


Fig. 10.—Development of molluscum contagiosum, showing effect of deep implantation of virus. Formation of foreign body tubercle in cutis with degenerative changes in the epithelium.

#### CONTROL OF EXPERIMENTS

Inasmuch as small amounts of blood and epithelium were present in the curetted material from molluscum lesions which we used, it seemed desirable to control our experiments further, as follows: Small bits of epidermis together with tiny amounts of blood were taken from one of our associates and injected under exactly similar conditions, after maceration and passage through a Berkefeld candle, into the

skin of a second member of our staff. This experiment was done on the same day as our first experiment. It remained entirely negative.

We have not had sufficient time, nor has the material at our disposal been sufficient to carry our inoculations into a second generation. We have for the same reasons been unable to try out the experiments on laboratory animals. It is our purpose to continue our experiments along these lines as soon as material offers itself for the purpose. The retention of the virus under certain physical conditions such as heat and cold will also be the subject of further study.

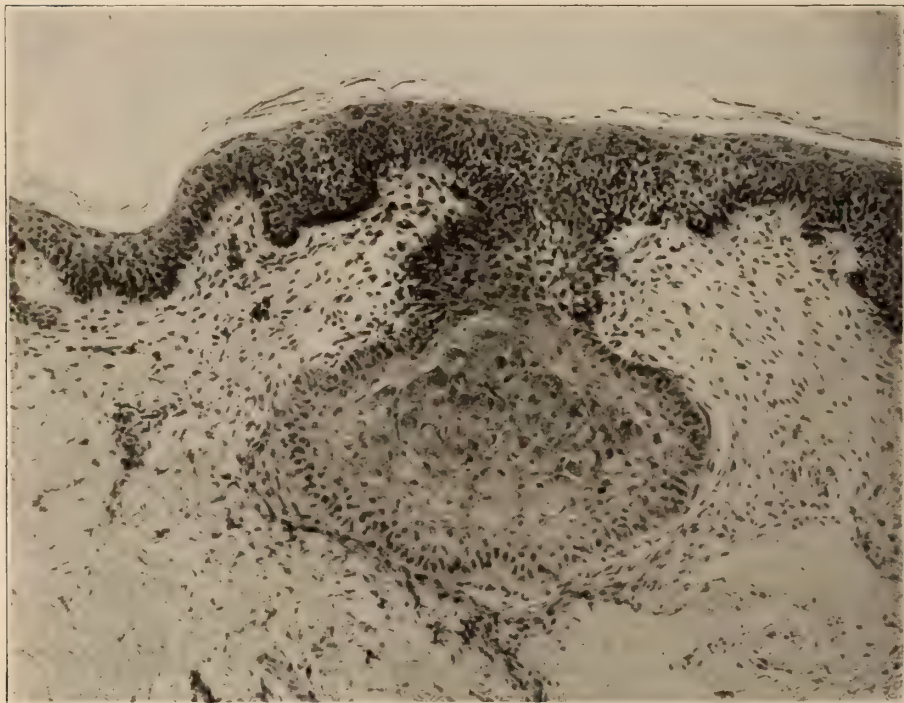


Fig. 11.—Development of molluscum contagiosum. Well developed experimental lesion. Biopsy taken eight weeks after implantation; pin point lesion; typical molluscum bodies.

#### CONCLUSIONS

From our preliminary studies we believe we are justified in submitting the following conclusions:

1. Molluscum contagiosum can be produced experimentally in the human being from the sterile filtrate of typical lesions.
2. The incubation period of experimental lesions probably depends on a number of conditions, among which surely individual predisposi-



tion or susceptibility must play a rôle. In our first case an incubation of fourteen days occurred; in the second, injected at the same time and under like conditions, lesions clinically diagnosable appeared in about twenty-five days, but were microscopically established only fifty-five days after infection.

3. We believe that the so-called molluscum bodies require a longer time for their development than is required for the development of



Fig. 12.—Development of molluscum contagiosum. Later stage of Fig. 11, showing molluscum bodies more numerous.

macroscopic lesions; that is to say, that the molluscum body represents a degeneration stage in the evolution of the molluscum tumor, not coincident in time with its early development.

4. Molluscum contagiosum, we submit, is caused by a filterable virus.

We take pleasure in extending our thanks to Professors Warthin and Weller for the preparation of the accompanying photomicrographs.





Fig. 13.—Development of molluscum contagiosum. Well developed experimental lesion; large numbers of molluscum bodies.

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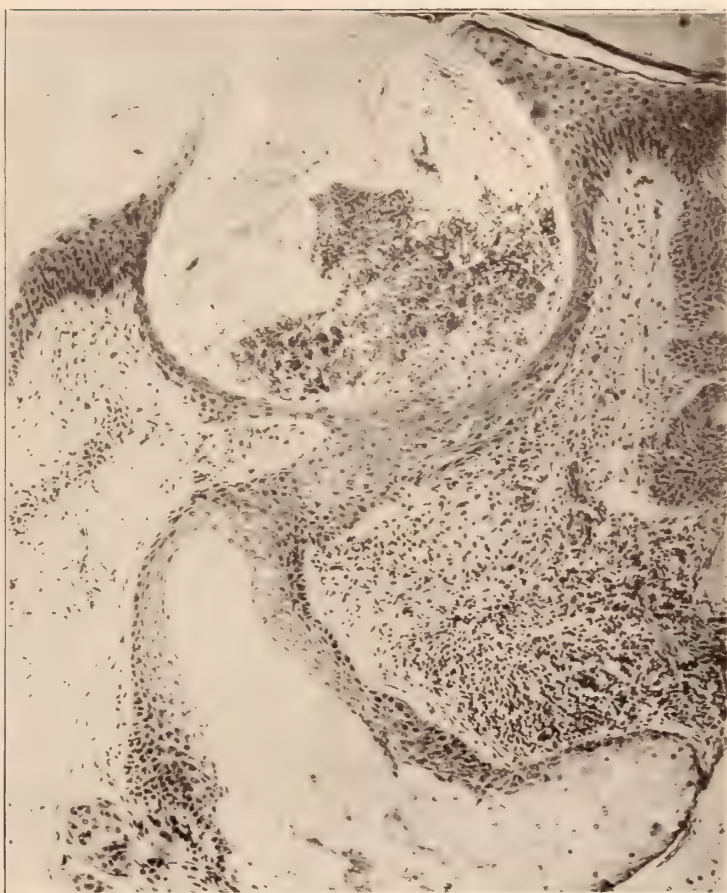


Fig. 14.—Development of molluscum contagiosum. Shown to indicate continuity of epithelial capsule with epithelium of sebaceous gland.



Fig. 15.—Development of molluscum contagiosum, indicating part taken by epithelium of pilosebaceous apparatus. Upper portion represents follicular epithelium.

## SEROLOGIC REACTIONS IN A CASE OF RHINOSCLEROMA \*

C. H. BAILEY, M.D.

NEW YORK

In spite of a large amount of laboratory work, two questions with regard to the so-called rhinoscleroma bacillus, first described by Frisch,<sup>1</sup> remain to be definitely answered: First, its relation to the other members of the group of gram-negative encapsulated bacilli, and secondly, its relation to the disease rhinoscleroma. Attempts at classification have been made by a study of growth characteristics, mainly sugar fermentations and the comparative serologic reactions of immunized animals. Efforts to prove the etiologic rôle of the rhinoscleroma bacillus have been made by injections into both animals and man. In spite of a few resulting lesions reported, it seems not unfair to say that such experiments have been uniformly unsuccessful, since the lesions produced did not particularly resemble those characteristic of this disease in man. Adequate review of this experimental work will be found in papers by Wilde,<sup>2</sup> Perkins<sup>3, 4</sup> and Hasslauer.<sup>5</sup> Some of the more recent literature will be referred to in the course of this paper.

The appearance of a typical case of rhinoscleroma at the Vanderbilt Clinic in December, 1918, afforded the opportunity for the experiments here reported, and the writer is indebted to Professor Fordyce for permission to make an investigation of the patient.

### REPORT OF CASE

The patient, A. W., man, aged 33, was a Slav, born in Austria, and had been in the United States nine years. He stated that about six months previously he had first noticed a swelling inside his nose on the right side which had gradually spread until the whole nose was involved. In December, the patient's nose showed marked deformity from the bridge to the tip consisting of a fairly uniform thickening which involved the septum, as well as the alae. The tissue was of cartilaginous firmness, of a dull red color and only slightly tender on pressure. At the tip of the nose was a slightly protruding firm nodule about 5 mm. in diameter. On the anterior aspect of the bridge was a similar nodule, about 1 cm. in diameter, which showed in its center

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\* From the Department of Pathology and the Department of Dermatology and Syphilology, College of Physicians and Surgeons, Columbia University.

1. Frisch: *Wien. med. Wchnschr.* **32**:958, 1882.

2. Wilde: *Centralbl. f. Bakteriöl., Erste Abtl.* **20**:681, 1896.

3. Perkins: *J. Infect. Dis.* **1**:241, 1904.

4. Perkins: *J. Infect. Dis.* **4**:51, 1907.

5. Hasslauer: *Centralbl. f. Bakteriöl., Erste Abtl. Referate* **1**:37, 1906.



a small opening, without exudation, the depth of which was not determined. Both nostrils were occluded by a firm, warty growth, and there was a firm, somewhat irregular but not ulcerated, thickening of the mucous membrane of the posterior pharyngeal wall, which did not extend to the larynx. There was a secondary acute dacryocystitis on the right side.

A piece of tissue was excised from the right nostril and a part of this was fixed for microscopic examination, and the remainder cultivated. The sections showed the characteristic picture of rhinoscleroma consisting of a cellular granulation tissue, with a moderate number of polymorphonuclear leukocytes, many lymphoid cells, some of the plasma cell type, and many larger cells, the abundant protoplasm of some of which contained homogeneous eosin-staining hyaline droplets. The protoplasm of other similar large cells appeared vacuolated and appropriate stains showed the presence of large numbers of short bacilli in these cells. The remainder of the tissue was washed in sterile salt solution, ground and plated on various mediums. On all mediums, including plain extract agar, there appeared within twenty-four hours exceedingly numerous colonies, 2 mm. or more in diameter, many confluent, of a moist, mucoid, almost water-clear appearance, later becoming somewhat whitish and opaque. Smears showed a short gram-negative bacillus and a thick capsule with the His stain. During the six months that the organism has now been under cultivation its characteristics have not changed, its growth is still of a stringy mucoid character, and the capsule has been retained.

A rabbit, a guinea-pig and a pigeon were inoculated with the culture, in each case subcutaneously into the mucous membrane of the nose, mouth and conjunctiva. The results of these injections were entirely negative except in the case of the rabbit, which developed an abscess at the site of injection in the lip, probably due to some secondary organism.

For the sake of comparison, cultures of similar organisms were obtained from various laboratories, and to all of these the author is much indebted. A list of the organisms used follows, in which the names under which they were originally received are retained, though several of them, according to their fermentation reactions, as shown in Table 1, might be classified otherwise. As Dr. Ford noted, No. 6 has the "reactions of *Lactus aerogenes*." The same may be said of No. 3.

TABLE 1.—ORGANISMS FROM WHICH CULTURES WERE MADE

- 1.—Rhinoscleroma bacillus; isolated by the writer from the case here reported.
- 2.—Rhinoscleroma bacillus. "Isolated at Rush Medical College by Dr. LeCount. Received March, 1911." American Museum of Natural History, New York City.

- 3.—Friedländer bacillus. Exact source unknown. From the Department of Bacteriology, College of Physicians and Surgeons, Columbia University.
- 4.—Friedländer bacillus. Isolated from sputum; not a case of Friedländer pneumonia. From Bacteriological Laboratory, Presbyterian Hospital, New York City.
- 5.—Friedländer bacillus. "Felton—A True Friedländer." Dr. W. W. Ford, Johns Hopkins University.
- 6.—Friedländer bacillus. "Guy—From nasal sinus. Reactions of lactis-aerogenes." Dr. W. W. Ford, Johns Hopkins University.
- 7.—A gram-negative encapsulated bacillus from postmortem culture of heart's blood of a case of arteriosclerosis, arteriosclerotic nephritis, bronchopneumonia, and acute pericarditis. From the Bacteriological Laboratory, Presbyterian Hospital, New York City.
- 8.—*Bacillus lactis-aerogenes*. "1-8. Recent isolation from stool of child." Dr. W. W. Ford, Johns Hopkins University.
- 9.—*Bacillus lactis-aerogenes*. "2-16. Recent isolation from stool of child." Dr. W. W. Ford, Johns Hopkins University.
- 10.—*Bacillus coli-communis*. From an acute cholecystitis. Bacteriological Laboratory, Presbyterian Hospital, New York City.

Fermentation tests of these cultures gave the following results:

TABLE 2.—RESULTS OF FERMENTATION TESTS OF CULTURES

	Dex-trose		Lac-tose		Saccha-rose		Sali-cin		Glyc-erin		Litmus Milk	
	Gas	Acid	Gas	Acid	Gas	Acid	Gas	Acid	Gas	Acid	Coag.	Acid
1. Rhinoscleroma b. ....	—	±	—	—	—	±	—	+	—	±	—	—
2. Rhinoscleroma b. ....	—	±	—	—	—	±	—	+	—	±	—	—
3. Friedländer b. ....	+	—	+	—	+	—	+	+	—	—	+	+
4. Friedländer b. ....	+	+	+	+	—	—	—	+	+	—	—	+
	(v.s.)	(v.s.)	(v.s.)	(v.s.)					(v.s.)	(v.s.)		(v.s.)
5. Friedländer b. ....	+	+	—	—	+	+	+	+	+	+	—	—
6. Friedländer b. ....	+	+	+	+	+	—	+	+	+	+	+	+
7. ....	+	+	+	—	—	—	—	—	—	—	—	—
8. <i>B. lactis aerogenes</i> ....	+	+	+	—	+	+	+	+	+	+	+	+
9. <i>B. lactis aerogenes</i> ....	+	+	+	+	+	+	+	+	+	+	+	+
10. <i>B. coli communis</i> ....	+	+	+	+	—	—	—	—	+	+	—	+

In the foregoing table the — signs indicates that the reaction remained negative for seven days, the + sign that the reaction was positive in twenty-four hours, and the ± sign indicates acid formation which, however, was evidenced only after forty-eight hours by the decolorized acid fuchsin used as an indicator. Attention has already been called to the fact that No. 3 and No. 6, by their fermentation reactions, should be classed as *B. lactis-aerogenes*. The reactions of No. 4 are worthy of special attention on account of the results of the agglutinin tests to be reported later. The gas formation in each sugar was very slight, not more than 0.5 c.c. being formed in the closed arm, and both gas and acid formation were very slow. Thus for two days the reactions of this bacillus almost paralleled those of the two strains of rhinoscleroma, but later they were clearly differentiated. On several trials the reactions of the two strains of rhinoscleroma bacillus were identical and always corresponded to those given in the table.

Blood was withdrawn from the patient on three occasions at intervals of several weeks, and tested with the above strains for agglutinins, precipitins and complement-fixing bodies. For the complement-

fixation tests, antigens were made in various ways. Normal salt solution suspensions of the various bacteria were heated at 60 C. for one hour on two successive days, and kept in the icebox for several days; suspensions in distilled water were similarly treated and made isotonic with sodium chlorid before use; bacteria were dried, ground in salt, and water was added to isotonicity, and these suspensions were similarly heated and stored; also suspensions in salt solution were subjected to the Porges treatment<sup>6</sup> for the solution of the capsules, i. e., heating in acid followed by neutralization, and these suspensions were then subjected to repeated heating at 60 C. and stored in the icebox. In the complement-fixation tests on the first serum withdrawn, all these antigens were used and were found almost equally efficacious, and in subsequent tests the only antigen used was one made by the first method, that is, a salt solution suspension. Fresh antigens were made for the tests on each of the two subsequent bleedings. On the last test in April, however, also the first antigens made were again used, having been kept in the icebox for over three months, and were found still efficacious. In each case the bacterial suspension was sufficiently thick to produce a slight opacity. Bacterial counts were not made, the antigens being diluted to a uniform turbidity.

#### TECHNIC OF COMPLEMENT-FIXATION TESTS

The technic followed was largely that of the original Wassermann test. A 5 per cent. suspension of sheep cells was used, two units of a sheep immune rabbit serum as amboceptor, and one unit of guinea-pig complement, which was titrated before each test. The patient's serum and the antigens were also titrated before each test for anticomplementary and hemolytic properties. The amount of antigen used was never more than one-half the largest amount which by titration was found would not produce any inhibition of hemolysis. Inasmuch as it seemed advisable to use all antigens in the same amount this dose was determined from the most anticomplementary antigen, most antigens thus being used in a small fraction of their anticomplementary doses. In the test itself, anticomplementary controls of the serum and antigens were also always used. Inasmuch as the results of the numerous tests were practically uniform, only a single protocol will be given.

Four other serums, two from normal individuals and two with Wassermann reaction + + + +, tested on the same day with all these antigens gave no fixation with any, using up to 0.4 c.c. of serum.

In a previous test, done on January 3 with serum withdrawn December 31, antigens from only two of the above strains were used,

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6. Porges: *Wien. klin. Wchnschr.* **18**:691, 1095; Von Eisler and Porges: *Centralbl. f. Bakteriöl.*, Orig. **42**:660, 1906.



namely, No. 1, the patient's strain of rhinoscleroma, and No. 3 of Friedländer. The first gave complete fixation with 0.005 c.c. of serum and the second with 0.02 c.c. Two normal serums gave no fixation in 0.2 c.c. with either antigen.

## RESULT OF TESTS

TABLE 3.—COMPLEMENT FIXATION TEST OF FEBRUARY 1, ON SERUM WITHDRAWN JANUARY 30 — 0.1 C.C. OF EACH ANTIGEN USED, PREVIOUSLY FOUND NOT ANTICOMPLEMENTARY IN 0.2 C.C. PATIENT'S SERUM NOT ANTICOMPLEMENTARY IN 0.4 C.C.\*

Antigen	Patient's Serum								Antigen Control
	0.2	0.1	0.05	0.02	0.01	0.005	0.002	0.001	
1. Rhinoscleroma.....	0	0	0	0	0	0	P	C	C
2. Rhinoscleroma.....	0	0	0	0	0	0	P	AC	C
3. Friedländer.....	0	0	0	VS	AC	C	C	C	C
4. Friedländer.....	0	0	0	VS	P	AC	C	C	C
5. Friedländer.....	0	0	0	0	0	P	AC	AC	C
6. Friedländer.....	0	0	0	S	AC	C	C	C	C
7. Gram-encapsulated bacillus.....	P	P	P	AC	C	C	C	C	C
8. <i>B. lactis aerogenes</i> .....	S	S	S	AC	C	C	C	C	C
9. <i>B. lactis aerogenes</i> .....	C	C	C	C	C	C	C	C	C
10. <i>B. coli communis</i> .....	C	C	C	C	C	C	C	C	C

\* The letters 0, VS, S, P, AC, and C refer to the amount of hemolysis, signifying no, very slight, slight, partial, almost complete and complete hemolysis, respectively.

A subsequent test on April 7, using serum withdrawn on April 3 and new antigens of cultures Nos. 1, 4, 5 and 9, gave complete fixation with No. 1, using 0.05 c.c. of serum, but not less, and no fixation with other antigens, using 0.2 c.c. of serum. In order to determine whether the decrease in complement-fixing power was due to a less valent antigen or to an actual decrease in potency of the patient's serum, the old antigens and serums of both January 3 and February 1 since stored in the icebox, were again set up after first having proved that these old serums were not anticomplementary in the small doses necessary for complement fixation, and these old antigens were also used with the new serum. Briefly, the results showed with the old antigens and old serums results similar to but not quite as strong as those previously obtained in January and February, and recorded above. Complete fixation with the rhinoscleroma antigen was obtained with 0.01 c.c. of serum and only partial with 0.005 c.c. With the new serum, the results were the same with the old rhinoscleroma antigen as with the new, namely, complete fixation with 0.05 c.c. of serum, but not with less. With old Friedländer antigen No. 4 and No. 5, there was only partial fixation with 0.02 c.c. of the new serum. It thus appears that in the two months' interval since the last tests there has been a very definite decrease in the complement-fixing power of the patient's serum. It is of interest to note that during this interval, in which the patient had been under roentgen ray and radium treatment by Drs. MacKee and Remer, there had also been very definite clinical improvement, the swelling being less, the tissues somewhat softer, and both nostrils having become patent.



## PRECIPITIN AND AGGLUTININ TESTS

Precipitin and agglutinin tests were less satisfactory. For the former, centrifuged seven weeks' old broth cultures of Nos. 1, 2, 4, 5 and 9 were used. With rhinoscleroma No. 1 and Friedländer No. 4 good precipitation was obtained with concentrated serum and 1:10 dilution and slight with 1:20. The results were fully as good with the Friedländer precipitinogen as with the patient's own rhinoscleroma. As previously pointed out, this culture, No. 4, resembles the rhinoscleroma bacillus in its fermentation reactions much more closely than do any of the others. With Nos. 2, 5 and 9 the results were quite negative. The test was tried with serial dilutions of the serums and with dilutions of the precipitinogen, but without different results. Serums from each of the three bleedings gave the same reactions.

For agglutination tests, fresh washed bacteria of all the cultures were used and also the same treated by the Porges<sup>6</sup> method, designed to dissolve the capsule. With the untreated bacteria, no agglutination of the patient's own strain was obtained; the other strain of rhinoscleroma was agglutinated in dilutions up to 1-80, and none of the Friedländer's or *Lactis aerogenes* were agglutinated, except No. 6 in a dilution of 1:10. Agglutinins for the colon bacillus, No. 9, were demonstrable in a 1:20 dilution. Coulter<sup>7</sup> has already demonstrated that these encapsulated bacteria may be agglutinated by immune serum without their previous subjection to the Porges technic. Porges, in his original paper,<sup>6</sup> remarks that if these bacteria are too long heated in the acid suspension, they will spontaneously agglutinate and that the length of time in which this result is produced varies with different cultures. The writer tried heating these bacteria in the acid for different lengths of time and found that not only is Porges' observation correct, but also that the susceptibility of the bacteria to specific agglutinins, when present, is gradually increased with the duration of heating in the acid solution up to the point where spontaneous agglutination occurs. Thus, while the method may be useful qualitatively for the demonstration of the presence or absence of agglutinins, it seems quite useless quantitatively, particularly for comparative figures for the purpose of type differentiation, inasmuch as a second variable factor is thus introduced and one which differs with different strains.

## DISCUSSION

Perkins,<sup>4</sup> from animal inoculations, by which he failed to produce rhinoscleroma, and from a study of fermentation reactions, concludes that the rhinoscleroma bacillus has no etiologic relationship to the

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7. Coulter: J. Exper. Med. 26:763 (Dec.), 1917.

disease of rhinoscleroma, and is a secondary invader. He presents experimental evidence to show that the sugar reactions of organisms of this group may change, and concludes that "Organisms with the power to break up sugar with gas formation may lose such power in whole or in part through modifications in environment," and that "Organisms of this group which show no fermentative power are probably degenerated rather than definite entities, and can in many cases be reactivated to their original type." In an earlier paper,<sup>3</sup> he classifies the members of this group according to fermentation reactions, dividing them, in conclusion, into three groups:

1. All carbohydrates fermented with the formation of gas (*Bacillus lactis aerogenes*).
2. All carbohydrates except lactose fermented with the formation of gas (Friedländer's bacillus).
3. All carbohydrates except saccharose fermented with the formation of gas (*Bacillus acid-lactici*).

He believes that the rhinoscleroma bacillus belongs in the second group and notes the fact that a strain of rhinoscleroma bacillus "consistently refused to make gas on anything," and hence believes it is a "hopelessly degenerated" member of the Friedländer's group.

If one is to classify these organisms on the basis of sugar reactions, it would seem that a persistent departure from a type reaction should not be disregarded or too easily excused, and the organism should be classified accordingly. The failure to ferment sugars noted by Perkins in his first paper, and considered an evidence of degeneration, was present in both strains used by the writer, and it does not seem probable that in the case of the recently isolated strain, at least, this lack of fermentation was due to a change subsequent to isolation. Similar results were obtained by Wilde<sup>2</sup> and others, and though there have been some exceptions, as noted by Hasslauer,<sup>5</sup> these reactions seem to be fairly consistent. If these organisms are to be classified on the basis of sugar reactions, it would seem that the rhinoscleroma bacillus by its lack of gas formation on sugar, is more entitled to be regarded as a separate entity than Friedländer's bacillus, whose reactions vary greatly, if one accepts the results of different workers.

If, on the other hand, as Perkins believes, the fermentation reactions of organisms of this group may change after isolation, these reactions are of little value as a basis for classification until the environmental conditions which produce these changes are understood and can be accurately controlled. That the rhinoscleroma bacillus is closely related to Friedländer's bacillus and other members of this group, the results of these experiments and those of others leave little doubt; and that the sugar reactions of members of this group may change is possibly also true, but the results from different cases of

rhinoscleroma show an almost uniform mutation in this regard, namely, a loss of ability to produce gas on all sugars. This consistency of results suggests that the environmental influence which produced this change preceded its isolation from the body in each case. Whether the organism invades the nasal tissues as a Friedländer's or some other type of sugar fermenting bacillus and its altered characteristics are due to environmental influences there, or whether the change precedes this invasion and perhaps in some way is related to its ability to produce this extraordinary type of lesion, we have no evidence.

The observation of a positive complement-fixation test in rhinoscleroma is not new. Goldzieher and Neuber<sup>8</sup> obtained a positive result on one case, and Galli-Valerio<sup>9</sup> on two. These workers used only 0.2 c.c. of the patient's serum. The remarkably small quantity of serum which is necessary to produce complete fixation of complement, as is shown in the present work, is worthy of note. While it would not be justifiable to draw any positive conclusions from quantitative results of a complement fixation test, these results seem to the writer very suggestive of the etiologic relationship of the rhinoscleroma bacillus to the disease. These results are quantitatively higher than in any other complement-fixation test with which the writer is acquainted, in which the proved etiologic factor is used as an antigen. The body may, of course, produce immune bodies to a secondary invader, but their production in such amount would be remarkable. It might be argued that one would also expect agglutinins and precipitins to be present in large amounts, but the technical difficulties of demonstrating agglutinins for these encapsulated bacteria, even in immune serums produced by the injections of these bacteria in well-known diseases and diseases in which the etiologic factor is recognized, may not show precipitins in as large or larger amounts than are here recorded.

It also would probably be unwise to draw any positive conclusions as to the relationship of these various organisms from comparative quantitative results of complement-fixation tests. There is, however, one aspect of the results recorded in Table 2 to which the writer would call attention. That positive complement-fixation tests were not obtained with the several strains of *B. lactis-aerogenes*, but that they were positive with the various strains of so-called "Friedländer bacilli" even with small quantities of serum, though in no case in as high dilutions as with rhinoscleroma, is obvious.

Attention has already been called to the fact that the names originally given these strains by those who isolated them have been retained.

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8. Goldzieher and Neuber: Centralbl. f. Bakteriöl., Erste Abt., Orig. **51**:121, 1909.

9. Galli-Valerio: Centralbl. f. Bakteriöl., Erste Abt., Orig. **53**:477, 1910.



They were evidently classified from the site from which they were obtained rather than on the basis of their fermentation reactions, since the majority of them do not correspond in this regard to the reactions considered characteristic of Friedländer's and two of them, Nos. 3 and 6, are typically *B. lactis-aerogenes* in this respect. Their complement-fixation reactions, however, correspond with their classification on the former basis. The strains which were isolated from the intestinal tract gave no positive fixations, while all those isolated from the respiratory tract gave reactions in high dilutions, even those, Nos. 3 and 6, which, according to their cultural characteristics, must be classified as *B. lactis-aerogenes*. Culture No. 7, which did not give complete fixation, at necropsy was isolated from the heart blood of a case of bronchopneumonia and acute pericarditis. From the pericardial exudate a gram-positive streptococcus was obtained, and from the heart blood, which was frothy, a gram-positive streptococcus and the gram-negative encapsulated bacillus were obtained. It is thus quite possible that this organism also came from the intestinal tract, having invaded the blood after death. The correspondence of the complement-fixation reactions to this classification is striking in these few experiments, and any explanation would of necessity be theoretical and will not be attempted. The observation may, however, be due purely to coincidence and possibly would not be confirmed by experiments with a larger series.

#### CONCLUSIONS

The blood serum from this case of rhinoscleroma contained complement-fixing antibodies for its own and one other strain of rhinoscleroma bacillus in very large and similar amounts.

Power to fix complement with other species of gram-negative encapsulated bacilli from the respiratory tract, including two strains of *Bacillus lactis-aerogenes* was high, but less high than with the rhinoscleroma bacillus.

Complement fixation with two strains of *Bacillus lactis-aerogenes* from the intestinal tract was practically absent.

Coincident with clinical improvement under roentgen-ray and radium treatment, there was a diminution in the complement-fixing power.

The rhinoscleroma bacillus, because of its cultural characteristics and immunologic reactions, recorded here and by other authors, would seem to be as much entitled to recognition as a species distinct from, but closely related to, other members of the group as are others now generally so recognized; and the results of the complement-fixation tests favor the view that the rhinoscleroma bacillus is the etiologic factor in this disease.



## SKIN DISEASES AT AN ARMY CAMP

M. B. HUTCHINS, M.D.

ATLANTA

A distinct dermatologic service was established at the base hospital, Camp Pike, Ark., May 29, 1918, and assigned to the author. Until Aug. 1, 1918, the majority of cases were admitted to the genito-urinary wards, though others were scattered throughout the hospital or were ambulatory. Up to July 24, 1918, no private notes were kept, the reasons for this being the confused status of the work. The following report and comments apply almost entirely to the period between July 24 and Dec. 9, 1918. This report cannot have any statistical value because of the fact that a great many cases were not sent up from camp infirmaries, others were in hospital for more serious conditions, and consultations were not held. It was early realized that the contagious service should not receive skin patients other than the exanthemata, and that, socially and medically, it was improper that they should be forced into the venereal wards. Before the opening of a dermatologic ward officers in some of the medical and surgical wards were objecting to the admission of dermatologic patients to their wards. On Aug. 1, 1918, a special ward was opened, under strict orders that no venereal or genito-urinary cases should be admitted.\*

The ward opened with thirteen patients gathered from the genito-urinary and other wards, and with provision for both white and colored patients. At the beginning of our overwhelming epidemic of influenza in September I had over fifty patients in the ward besides ambulatory cases and patients in other parts of the hospital seen in consultation for minor conditions. The influenza epidemic with its sequelae, the armistice, a staff change bearing with it a misconception of what constituted dermatologic cases, and discharges practically destroyed this service.

The patients listed were for the most part hospital admissions, though there was a good proportion of ambulatory and consultation cases. A number of those admitted to the hospital for a dominant and disabling skin disease had other skin conditions, sometimes two or three. These are included in my notes.

Practically all of the curable patients were discharged "cured"; a minority were discharged "improved." The incurables took various

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\* I am indebted to Lieut.-Col. (then Major) Hugh McKenna, Chief of Surgical Service, for the opening of this ward and perfect freedom from interference in its conduct.

directions. Results of treatment were rather better than in civil life because of hospitalization and army discipline, and in spite of the frequent difficulty of obtaining proper diet and drugs.

The table shows the number and variety of cases and diseases of which I have private notes. In so far as possible the nomenclature of the *Manual for the Medical Department* was followed.\*

SKIN DISEASES TREATED AT BASE HOSPITAL,  
CAMP PIKE, ARK.

	Cases		Cases
Epidermophytosis .....	51	Abscess axillarum .....	3
Scabies .....	56	Bubo—non-venereal .....	2
Dermatitis venenata .....	44	Trichophytosis .....	3
Ulcers, mostly traumatic, infective .....	22	Lichen planus, penis.....	1
Trauma, infective (finger).....	1	Erythema induratum (ulcers).....	2
Trauma, infective (hand).....	1	Tuberculous sinuses .....	1
Eczema .....	18	Ulcus cicatrisans (lupus vulgaris) ..	1
Eczema, parasitic .....	2	Tuberculosis cutis .....	1
Acne vulgaris .....	16	Papulo-pustular tuberculid .....	1
Acne vulgaris et cachecticorum....	1	Granulomatous ulcers .....	1
Acne rosacea et seborrhea oleosa..	1	Granuloma, yaws-like .....	1
Sebaceous folliculitis .....	2	Pediculosis pubis .....	3
Miliaria rubra .....	14	Erythema intertrigo .....	3
Miliaria simplex .....	1	Molluscum fibrosum .....	3
Impetigo contagiosa .....	14	Pityriasis en plaques disseminées... 1	
Pyodermia .....	3	Psoriasisform dermatitis .....	1
Furunculus or furunculosis.....	10	Parapsoriasis .....	2
Abscess colli post furunculus.....	1	Varicella .....	2
Syphilids .....	10	Measles .....	2
Pityriasis rosea .....	10	Para-anal infiltration .....	2
Pustular folliculitis .....	10	Alopecia prematura .....	2
Sycosis vulgaris .....	1	Alopecia areata (face).....	1
Pityriasis versicolor .....	10	Alopecia cachectica .....	1
Urticaria acutum .....	9	Roentgen-ray depilation .....	1
Urticaria chronic .....	1	Keratosis follicularis .....	1
Hyperidrosis, mostly with bromi- drosis .....	8	Nevus linearis .....	1
Erythema toxicum .....	7	Dermatitis pruriginosa .....	1
Erythema multiforme .....	4	Pernio (frost bite) et sequelae.... 1	
Erythema nodosum .....	3	Inflammatory, traumatic edema of feet .....	1
Erythema scarlatiniforme .....	1	Pompholyx, foot .....	1
Straw mite disease (bites).....	7	Dysidrosis, hand .....	1
Insect bites, unclassified.....	1	Chloasma .....	1
Verruca vulgaris .....	7	Edema circumscriptum, upper lip.. 1	
Hyperkeratosis .....	6	Rubella .....	1
Callositates (congenital) .....	3	Erysipelas .....	1
Dermatitis squamosum .....	6	Pruritus ani .....	1
Ichthyosis .....	5	Pemphigoid lesions .....	1
Dermatitis seborrheica capitis.....	5	Papillomata of toes.....	1
Favus .....	5	Purpura simplex .....	1
Pellagra .....	5	Erythema solare .....	1
Burns .....	5	Vaccination ulcer .....	1
Herpes simplex .....	4	Keloid .....	1

As nearly as it is possible to differentiate the cases, the total of definite skin diseases listed is 452, omitting complications and results of improper treatment. In this total are represented approximately

\* Changes No. 6 of *Manual for the Medical Department*, Feb. 11, 1918.

ninety more or less distinct dermatologic entities. Complications noted below have, in some instances, confused the picture; in others, as result of treatment, the primary disease was simply more or less altered and masked. In the dermatologic service there was no restriction of treatment by rules or regulations, but the utmost freedom attainable with limited medical supplies.

The bane of dermatologic practice, both in civil and army life, is the use of tincture of iodine in skin diseases, regardless of the diagnosis, type or condition as to inflammatory reaction. Not only orderlies, nurses and patients, but many of the medical officers indulged in this pernicious practice. A letter of protest was started "through military channels" in an effort to correct this evil, but a continuance of it seemed to indicate that the letter lodged somewhere.

Patients admitted were either unfit for duty, more or less repellant to their companions, unable to get properly continued treatment in quarters — or all these conditions prevailed.

#### COMMENTS ON CASES

*Epidermophytosis*.—This term was used to cover the class of cases probably due to epidermophyton inguinale, the qualifying word being omitted because of the variety of localizations of the disease and the fact that none of the lesions was originally inguinal. The most usual site was the upper and inner portion of the thighs and crotch, the glutei, axillae, feet and hands. There were several typical, more or less generalized, cases. The thigh and crotch were usually intensely intertriginous, red, moist, denuded, inflamed. The axillary cases were intermediate, the toe cases, either disabling or simply extremely pruritic. The widely distributed lesions were figurate in various parts of circles, narrow-ringed, of rapid extension and moderately itchy. These as a rule had no femoral, axillary, foot nor hand involvement. There were so many of the thigh and crotch form seen by, or reported to me, that I became convinced that the laundries plus a season of excessive hot weather were responsible. One patient convalescing in a medical ward developed a large patch on the anterior region of the ankle and instep. The disease was nearly endemic among the corps men and present on a few medical and other officers.

Intertriginous cases, or those "burned" with tincture of iodine, liquid phenol, formalin or other irritants were treated with a powder somewhat as follows:

	Gm. or c.c.
R Acidi borici .....	4
Zinci. oxidi, pulv.....	30
Pulv. talc ad.....	120

M. Confinement to bed and separation of parts was necessary in some instances. Cotton dressings and an excess of powder produced an aggravating accumulation.

Active but not intertriginous lesions were cured in a few days with either 3 per cent. acid pyrogallol or 2 per cent. iodine crystals in collodion, the "varnish" being allowed to peel before reapplication. Others were benefited by 5 per cent. to 10 per cent. sodium hyposulphite in aqueous solution.

Whitfield's ointment was used on some of the foot cases, but where there was much moisture the following powder was used:

	Gm. or c.c.
R Acidi salicylici .....	1
Acidi benzoici .....	2
Zinci oxidi pulv.....	4
Pulv. talc ad.....	30

M. To be used freely over affected parts and in socks.

Widely disseminated and numerous lesions received the salicylic and benzoic ointment or the official ammoniated mercury ointment. Recurrences of disease were construed as evidence that some of the organisms escaped the destructive action of treatment.

*Scabies*.—This disease was certainly more abundant than tabulated, many cases not coming to the hospital. As no soldiers slept together, infection was attributed to clothing and bedding. At least one soldier developed the disease after two or three weeks in a medical ward. A striking feature of this "army itch" was the localization, with its secondaries, in abundance on the abdomen, groins and upper and inner portion of the thighs, with classic involvement of the penis and rarity or scantiness of lesions elsewhere—as the fingers, webs of the hands, base of the palms, the wrists, etc. Secondary lesions were many small inflammatory papules, an occasional follicular pustule or boil. As had been my practice in civil life, a few cases with small, scattered atypical, itchy papulovesicles, evidently contagious and yielding to scabies treatment, were designated "scabiod." In schools and institutions this type is common and seems more a house than contact disease. The official sulphur ointment was employed following a bath and sending of the clothing to the sterilizer in the less inflammatory cases, while the more severe cases received this salve diluted one half with oxid of zinc ointment. Forty-eight hours usually sufficed for a cure, though secondary lesions required more time. Some of these patients came in with a sulphur dermatitis; one who had been given his ointment to use if needed and returned to duty, was sent back to me with a new diagnosis of scabies, but actually a sulphur dermatitis from persistent over treatment was present.

*Ulcers*.—Practically all these were traumatic, infective ulcers of the feet or legs, due to shoe or legging rubs or pressure, plus infection. There were no "varicose ulcers." The lesions were one or more, superficial or deep. Two or three were necrotic to the extent even of the presence of hard, adherent crusts. The multiple and superficial types were treated with ammoniated mercury ointment, half or full strength; or 5 per cent. calomel ointment, as dressings. The deeper were dressed daily after a variety of methods such as cotton covered air tight with adhesive plaster strips or wax paper, cotton and slit wax paper, vaselin, etc., according to indication. Ulcers containing eschars usually showed little or no pus. Sterility retarding separation of crusts, these lesions were encouraged to become infected as a means of cleaning them out. This having occurred, they were then cleansed and one of the sterilizing methods, as the air tight adhesive, was employed.

Elevation of the feet and legs when not in bed or walking about was a routine order. "Strapping" and bed rest in one case did not act as well as other plans of treatment.

One of the "traumatic infective" ulcers was on the scrotum, an erosion due to bruising, maltreatment leading to the formation of a large lesion resembling extragenital chancre. This possibility was eliminated and progress to recovery was reasonably rapid under constant dressings of mild ammoniated mercury ointment. There was one case of *infected injury* of the finger and one of the hand.

*Dermatitis Venenata*.—These were nearly all due to plant poison, rhus probably predominating, contracted in the field, though one case of the knees and extensors of the forearms and elbows aroused suspicion that brought a



confession of coitus undertaken among green plants at night. Where vesicles or bullae were present they were broken up and the mixture below was almost invariably employed with rapid recovery.

	Gm. or c.c.
R Isaroli .....	8
Pulv. zinci oxidi.....	16
Pulv. magnesi carbonatis.....	4
Aquae ad.....	120
M.	

One of these cases came in with secondary infection, the vesicles and bullae being purulent. This complication was treated with the same applications as used in other pyodermic conditions, while the spread of the original disease was treated with the above lotion. This man also had an intense infection of one tonsil.

A few of the "venenata" cases were due to local action of drugs, as one soldier's leg which was intensely inflamed following the application of tincture of iodine and a tight bandage, for some trivial condition. Among the influenza cases a few were seen with sparse, small, red, scaly macular lesions over the body. I was unable to decide whether this eruption belonged to the disease or to the constantly administered acetylsalicylic acid. I do not recall any definite cases of dermatitis medicamentosa.

*Eczema*.—This condition comprised several varieties exclusive of the generalized, very stiff, thick, exudative to squamous type, rather common in older people and seemingly often accompanied by nephritis and other conditions. The poor results of treatment and dietetic restrictions, as evidenced by constant recurrences, the usual fluctuations from apparent cure to sudden relapse settled in my mind the fact that eczema is something more than a dermatitis. The percentage of "cures" was almost zero, in spite of the best treatment my experience suggested. There may be some criticism of the term "parasitic eczema" as applied to two cases. These were sharply defined, stiff, thick, raised, exudative, crusted and scaly, rounded patches, pruritic and chronic. Treatment with one of the salves containing reputedly germicidal agents was quite successful.

*Acne Vulgaris*.—One of these cases involved the whole face and back, an oily seborrhea was present, and at the time of admission to hospital lesions of the "cachectic" type were marked. Another case in which the face was severely affected was that of a soldier who was sent in for favus. The acnes greatly improved under "proteid diet," the free use of soap, removal of comedones, and emptying the lesions, together with "lotio alba" which acted better than the bichlorid, soap and alcohol mixture.

Exclusion as far as possible of fats and sweets, as "canteen stuff," especially the bottled soft drinks, and the ever-present ice-cream cone was apparently of great assistance in the prevention of new lesions. Only one of these patients had a sebaceous cyst, beneath the right ear.

*Miliaria Rubra*.—There were perhaps a total of over thirty days during the summer when the temperature was well above 100 degrees in the shade. The "prickly heat" cases resulting were nearly all admitted to the hospital, unfit for duty. Localization was chiefly of the abdominal and subaxillary regions, with involvement of the forearms in some instances. Constant recurrences on one soldier, a very nervous man, whose axillary perspiration literally flowed down, kept him in the hospital over six weeks. Drying powder, as corn starch or talc, one of the zinc-magnesia lotions, frequent baths and the avoidance of sweat-producing exertion was the treatment for these cases. A few patients developed a secondary follicular infection or boils.

*Miliaria Simplex or Sudamina*.—This, as recalled, was simply a case of minute thin-walled vesicles evidently filled with perspiration, a trivial affection.

Extensive outbreaks of sudamina were common in the crises, or lethal terminations of pneumonias, according to statements of the medical men.

*Impetigo Contagiosa*.—While primarily distinctive, very few of these were uncomplicated. One man had received an application of tincture of iodine followed by a mercurial. His entire face was a denuded seropurulent, exudative and crusting mass, the result of damage by chemical combinations in treatment and staphylococcal infection of the denuded skin. Others showed ecthyma, ulcers, furuncles, following impetigo contagiosa of the thighs, legs or ankles. Treatment with ammoniated mercury or 5 per cent. calomel ointment was effective. The three cases listed as *pyodermia* were closely related to the above.

A soldier came in with a universal contagious impetigo, secondary, deep, punched out ulcers of the post inferior cervical region, the lesions on the arms and legs resembling old, infected, destructive, vaccination lesions. After entering the hospital, his left tonsil became infected and sloughed out. All skin lesions got well under ammoniated mercury ointment save a few small and four large, progressive ulcers on the legs. There was no evidence of syphilis in the patient, and the effects of potassium iodide in moderate doses were most variable. The large ulcers became livid with gross granular floors, necrotic edges, areas of whitish coagulation necrosis, rapid breaking down, abundant brownish, syrupy, most offensive pus; they were intensely painful. Wet dressings of boric solution, air-exclusive dressings, and all the usual treatments aggravated the condition. As their color changed to normal red under hydrogen-peroxide and it seemed possible that the active organism was an anaerobe, the lesions were kept constantly soaked in peroxide for many days. Rapid healing followed up to a certain point, then the whole area broke down again. During the entire time this man was receiving the best of food in abundance, "hospital tonics," and the ulcers had more or less of sun treatment. Laboratory reports came back "usual staphylococci, gram-negatives," etc.; finally, two separate reports of "*bacillus pyocyaneus*." At the time of his transfer to a general hospital rapid progress toward an apparently substantial cure was being attained under dressings of dichloramin-T., 1 to 5 per cent. in chlorocane.

*Furuncle or Furunculosis*.—This was more frequent as a secondary manifestation to other conditions. There were no carbuncles. Areas of multiple boils were treated as were other pyodermias. The following method was employed: No boil was incised; there is always a small point-of-infection opening. An applicator point soaked in 95 per cent. phenol was bored into and through the "core" of recent lesions, any plugged-in pus pressed out and, where there was no free discharge, an air-tight roof of adhesive strips applied. As softening and liquefaction appeared the contents were gently expressed, cotton applied and roofed over, air-tight, with adhesive. The cavity rapidly filled with granulations and healing occurred without noticeable scar. Exuberant granulations were treated by escharotics and dry dressings. There was one old case of abscess of the back of the neck following a neglected furuncle.

*Syphilids*.—All but one of these were consultation cases. The exception was a man with a large field of necrotic and punched out ulcers, pea to finger-end size, and more or less pigmented to white scars. There was a smaller patch on the right deltoid region. His history was that the only genital lesion he ever had was an erosion on the penis a year or two after the skin lesions appeared. As all the Wassermann tests were then being made in Atlanta, this soldier got well under "mixed treatment" and dressings of Ung. Hydrarg. ammoniat., before the report was returned.

*Pityriasis Rosea*.—One of these cases was a "rusty black negro"; the others were whites. One came in with a diagnosis of scabies, the dermatitis from sulphur ointment used being his cause of disability, and nearly masking the real disease.

*Pustular Folliculitis*.—These cases comprised acute, continuously appearing folliculitis with pus, some lesions being small furuncles. One of the men in the ward for epidermophytosis attributed the infection of his face to a razor borrowed from another ward patient who had a pyoderma of the thigh. After this occurrence orders were issued that razors must not be used without sterilization, if borrowing were urgent. Ammoniated mercury ointment relieved the majority. One case resisted all remedies.

*Sebaceous Folliculitis*.—This was the diagnosis in two cases resembling the pilary form.

*Pityriasis Versicolor*.—This condition was usually seen in patients coming to the hospital for other diseases. It yielded apparently to a from 5 to 10 per cent. aqueous solution of sodium hyposulphite.

*Urticaria Acutum*.—This condition of proteid poisoning cleared up rapidly under "non-proteid" diet, proper but not continued purgation and saturation with sodium bicarbonate by mouth. One man was clear in the early morning and had a violent outbreak after having consumed nothing for breakfast except a cup of coffee. The case of chronic recurrent urticaria (anaphylactic) yielded as rapidly as the others.

*Herpes Zoster*.—With the exception of one case possibly having been due to the triple typhoid inoculation the cause of this disease was undiscoverable. A soldier in whom the whole left shoulder, upper chest and scapular region was covered with abundant vesicles, varying in size from a pin-head to a small pea, on an inflamed skin, and who did not complain of pain was entered as dermatitis venenata. As the diffuse condition cleared up a few distinct patches of erosion or necrotic points were exposed. I then changed the diagnosis, but later decided that the patient had both conditions, having been exposed to plant poisoning from twenty-four to forty-eight hours before. The treatment of zoster was acetylsalicylic acid internally and hot applications if the pain was severe, breaking the vesicles, and a varnish of isarol, 4 gm., collodion, ad 30 gm.

*Hyperhidrosis*.—These were nearly wholly feet cases accompanied by bromidrosis and "third degree flat foot." Maceration, tenderness, at times vesication or denudation and the anatomic condition obtained discharge from the army for extremely affected men. Drying, insoluble powders were the best treatment for these cases. The flattened arches evidently have a causative effect in producing the perspiratory disease.

*Psoriasis*.—These were of all degrees and cleared up under treatment. None of them was of sufficient thickness and toughness to require the use of chrysarobin, perhaps on account of it being very hot and sudoriferous weather. The effective treatment in the majority was the following:

	Gm. or c.c.
R Acidi salicylici.....	2
Ungt. hydrargyri ammoniatum....	30

One of the men had several outbreaks of dermatitis from this treatment, which it was necessary to soothe with bland applications. After repeated cycles of these occurrences he became free of the disease.

*Erythema Toxicum*.—Six of these were classed as "food poisoning" and one seemed attributable to triple typhoid inoculation. Slight evidences of toxemia and sometimes a little elevation of temperature were present with moderate to marked gastro-enteric symptoms and some joint pains. The lesions were punctate, red, level, with the frequent presence of small purpuric points or spots, particularly on the legs. Recovery was usually rapid.

*Erythema Scarlatiniforme*.—This blends naturally with the conditions described above. One of these cases was found in the contagious ward, a



normally red-skinned man, but on account of this disease as profusely over-red as the proverbial boiled lobster, and practically free from constitutional symptoms. The eruption was weeks in fading, in final subsidence showing dryness and moderate scaling. The other case was even more marked, the mouth involved, lips and face swollen, the whole cutaneous surface a deep red. The general condition was almost normal. After a few days patches of close-set, small, superficial vesicles appeared over the front of the legs and lower fore-arms. This case cleared up rather rapidly with little desquamation, but some exfoliation of carmine borders.

*Erythema Multiforme*.—The distinct type was rare, as was *erythema nodosum*. There was one case of the papular form of the former disease on the face and nodular on the legs. Treatment of this group was the same as for urticaria.

*Pediculoides Ventricosus* (Straw Mite Disease).—This affection mostly originated in camp and from handling straw about the mule barns. Straw was used in hundreds of men's sleeping pads, but, curiously, no cases were traced to this source. One recruit contracted the condition at home from alfalfa hay. The lesions were rather small papules, minutely vesicular. One patient showed papules of larger size, but not as large as those of "red-bugs" (*Leptus*), and their origin was undetermined.

*Verruca Vulgaris*.—This occurred in out-patients with the exception of one soldier who entered the hospital with over fifty warts on his hands, forearms and wrists. Cure was effected with trichloroacetic acid, locally applied.

*Hyperkeratoses*.—These were of various locations and were insignificant.

*Callosities*.—These two were congenital, massively affecting the palms and soles. The men, one white, one colored, were recommended to be discharged from the army.

*Dermatitis Squamosa*.—This condition was nearly always secondary to a pre-existent acute dermatitis and, in some instances, irritant treatment.

*Dermatitis Seborrheica Capitis*.—Only five patients thought it worth while to ask for treatment.

*Favus*.—At least three of these originated in Arkansas, the others in the Middle West. The affected soldiers were discharged from the army.

*Ichthyosis*.—We had one case, severe and complicated with fissured eczema of the wrists, forearms and flexures of the ankles; large cutaneous varices of the lower abdomen and dorsum of the penis, and a left varicocele. He was discharged to his home.

*Pellagra*.—There were two patients with this condition. They had marked mental symptoms of the dull, stupid type, one being a Louisiana negro about 40 years old with intense acne vulgaris of the chest; the other, a Norwegian from Iowa who had entered the hospital with scabies and a furuncle. These men were discharged from the army. The others were very mild and free from general symptoms.

*Burns*.—These were due to hot coffee spilled in leggings and shoes, a hot water bag, carbolic acid or iodine, and formalin, the drugs having been applied for epidermophytosis.

*Herpes Simplex*.—The four were the only cases noted, but there were numerous occurrences of these lesions following routine triple typhoid inoculations.

*Axillary Abscesses*.—These were all primary, beginning in follicular infection. Puncture, massage and Ung. Hydrarg. Ammoniat. were effective.

*Bubo non venerealis*.—This was secondary to infection of denuded skin; one by retained peroxid, the other a purulent intertrigo, scroto-femoral region.

*Trichophytosis Corporis*.—This condition was definitely diagnosed as typical in but three instances.



*Lichen Planus of Penis.*—There was one doubtful case. A beautiful band-like case on the lateral chest of a negro was seen in a genito-urinary ward.

*Lichen Scrofulosis of the Arms, Chest and Back.*—The case was classic, the patient being a splendidly developed negro soldier whose mother probably was tuberculous.

On several negroes who were syphilitic were small patches of pin-head sized papules subsiding and scaling off, originally thought to be of the scrofulous type, but disappearing under specific treatment. They were probably grouped, miliary papular syphilids.

*Erythema Induratum.*—One patient was a white man with ulcers, with pale necrotic plugs below the knee and on the scrotum. Cure was aided by daily exposure to sunlight. The other patient was a negro with an ulcer of the forearm and thigh following the indurated state; later there was evidences of pulmonary tuberculosis and an intense infection of the ethmoid and post-ocular regions. He was transferred to nose and throat service and operated.

*Tuberculous Sinuses.*—These were of the scrotum, para-anal, sacrococcygeal, gluteal and upper post femoral regions; some of these were nearly twelve inches long, all subcutaneous. A Louisiana negro was sent to the army by his Board in this condition. The Wassermann test was negative. Microscopic diagnosis was not definite. Splitting open the canals and dressings with Dakin's solution healed the original group. Others continuing to appear, the man was sent home, having refused further operations.

*Ulcus Cicatrisans.*—This condition, seen casually, was suggestive of a mild lupus vulgaris.

*Tuberculosis Cutis.*—There were indolent, papular, split-pea sized or smaller diffused lesions on the body and arms. One case was that of a negro with definite pulmonary tuberculosis, and a similar case of the papulo-pustular type in a man without lung symptoms.

*Granulomatous Ulcers of Perianal Region.*—This case occurred in a negro. It was irregular, ragged, granular-floored and painful. The laboratory report was indeterminate—clinically tuberculous.

*Granuloma.*—In this condition there was a band along the right inguinal region, an oblong mass on the left upper thigh, tending to keloid, a band across the lower pubis, lesions resembling the comb of a "rose-combed" chicken. It suggested yaws. The patient was a New Orleans negro. The Wassermann test was negative. Arsphenamin produced no effect. Potassium iodid aggravated the condition. The laboratory report was indefinite; the final verbal statement was to the effect that lymphoid cells were found in sections. The patient entered the army with this condition and was discharged on his refusal of curettement and cauterization.

*Pediculosis Pubis.*—Only three cases were seen in the skin ward, but they were discovered almost daily among genito-urinary patients, and I do not recall any case of a negro. Mercurial ointment being rather drastic, the following was kept in the wards and immediately applied on discovery of the infestation:

R	Hg. Oleati Hydrargyri.....	1
	Oleum gossypii seminis āā.....	16
	Etheris sulphuris, ad.....	120

This killed the pediculi and ova at once.

*Erythema Intertrigo.*—The disease had gone on to secondary infection in two cases. It was relieved by insoluble powder containing 2.5 to 5 per cent. of ammoniated mercury.

*Molluscum Fibrosum.*—Two of the men were so extensively affected that their discharge from the army was advised.

*Parapsoriasis.*—There were two of these cases which authors have described under six or seven different names. There was no resemblance to psoriasis, but rather a strong likeness to a most profuse macular syphilid. The soldier who was an in-patient, had the condition for years and showed no improvement after several months in hospital. Active exertion changed the quiescent, fawn to red maculae and plaques to bright red, accompanied by distressing burning and itching. There was practically no scaling. He was discharged from the army. The other, an out-patient, was lost sight of.

*Varicella.*—There were only two cases; consultation for diagnosis.

*Measles.*—Patients occasionally developed this disease and were transferred to the contagious ward.

*Para-anal Infiltrations.*—One case was that of a teamster habitually "riding sideways" on the wooden seat.

*Alopecia Prematura.*—Non-seborrheic.

*Alopecia Areata.*—Typic.

*Alopecia Cachectica.*—After a long invalidism in the officers' ward, this patient developed great nervous excitement following a careless hint at syphilis. Recovery was spontaneous.

*Roentgen-Ray Depilation* of left cheek following one exposure.

*Keratosis Follicularis.*—Typic.

*Nervus Lincaris.*—This case was classical.

*Dermatitis Pruriginosus.*—The objective symptoms were insignificant.

*Pernio.*—The condition was of four or five years' duration, "frozen." Lateral soles and heels were cream to pink colors, the shades varying to deeper red, at times superficial vesicles and denudation. There was burning and pain. The patient was discharged from the army.

*Traumatic Inflammation and Edema of Feet.*—The condition was caused by shoe rubs in drill.

*Sycosis Vulgaris.*—There was only one typic case.

*Subcutaneous Fibromata.*—This condition up to considerable size was seen in consultation. It was nondisabling.

*Pompholyx of the Feet.*—One seemingly typic case was seen.

*Chloasma of the Face.*—This condition appeared on a mulatto, on whose type of skin this condition is more common than in any other class.

*Dysidrosis of Hands.*—This condition was one of simply sweat retained in the follicles.

*Edema Circumscriptum.*—The patient was admitted to hospital with diagnosis of erysipelas. The upper lip was reddened and permanently thickened, with exacerbations at times increasing its volume—an elephantiasic condition. Acne rosacea of face also was present.

*Rubella.*—This appeared in a consultation case.

*Erysipelas.*—This condition was seen in pus surgical ward. After consultation the patient was transferred to the contagious ward.

*Pruritus Ani.*—Cleanliness and the use of 3 per cent. phenol in ung. ammoniated mercury is as effective in this disease as vaccines, other treatment or operation.

*Pemphigoid Lesions.*—These affected the scalp, forehead and especially the upper inner surface of left arm; the lesions resembled "bags of fluid," and occurred in a soldier convalescing from influenza (?) in a medical ward. The patient thought the lesions due to a too hot shower bath, but there was no erythema nor inflammation. All evidence of the disease disappeared in two weeks.

*Papillomata*.—There was a large, flat, smooth, fissured, tough lesion on the dorsum and outer side of the left great toe, probably originating from verruca vulgaris as present on the same and a small toe. He was cured after repeated nitric acid cauterizations, most of the scar resembling normal skin.

*Purpura Simplex*.—There was only one unmixed case, though many punctate toxic erythemata showed purpuric points.

*Erythema Solare*.—Just one case appeared in spite of exposure of thousands of men during an excessively hot summer.

*Vaccination Ulcer*.—One man came in for impetigo contagiosa and later developed a severe follicular pustulation of the face.

*Keloids*.—A negro was the only patient with this condition.

#### ADDITIONAL CASES

A man was discovered in the contagious ward with a severe recurrent erythema multiforme, with intense involvement of the lips, mouth and sub-preputial area, with exfoliation, as well as with the general skin eruption. Recovery occurred on proper diet and medication in a week.

A Filipino (transplanted to Louisiana in his boyhood) had congenital, large papulated, verrucoid patches on each knee and wrist of so-called *nevus unius lateris*, a classic, though symmetrical, case. By some inadvertence the diagnosis of lupus vulgaris had been made.

There were two florid cases in white men, of *macular syphilis* and other secondaries, with no history of a primary lesion, and none could be found, the rectum even being included in the search; and there was also one white man, 22 years old, with large ulcerative and gummatous lesions of the legs and arms, with no history of previous lesions of any kind. All three cleared up under arsphenamin and mercury rubs. Of hundreds of men subjected to "rubs," only one, a thin-skinned white man, developed a local reaction—the whole upper dorsal and scapular areas being covered with pustules. It was suggested that the lesions be allowed to clear up and future "rubs" be given with a calomel ointment. I had no further information as to this case.

A visiting young French officer showed on the backs of the hands and fingers a perfect example of *granuloma annulare*.

A white man seen in the observation ward, with a few scattered lesions of *varicella* on the skin and the hard palate, was sent to the contagious ward. In the next three weeks I saw this soldier several times, always sitting on the porch; he never had any constitutional symptoms, the lesions continuing to appear until he had what I insisted was "confluent chicken pox" (still sitting on the porch and feeling well). Finally, as the lesions cleared, the epidermis of the feet and hands exfoliated largely. The medical officer and chief of the contagious service are equally positive that this man had confluent small-pox.

There was one typical case of *lupoid sycosis* on the maxillary border and neck.

Perhaps of little scientific value, but nevertheless interesting, is the experience with influenza in my ward. About twenty cases developed in this ward, or were admitted during the epidemic. Not a single one developed pneumonia. One case of pneumonia was admitted, diagnosed and transferred to the pneumonia ward. Masks were consistently used, and isolation from other patients enforced. Five negro, "skin patients," had their beds on one end of the porch, being separated by a sheet screen and a few feet of space from severe influenza cases among the white men. None of the negroes had the disease.

Contagious cases of various kinds, or suspects, were immediately screened off, awaiting proper consultation and transfer. All of these were sporadic, and my other patients were not infected.

# Society Transactions

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## THE NEW YORK ACADEMY OF MEDICINE, SECTION ON DERMATOLOGY AND SYPHILOLOGY

*Regular Meeting, March 4, 1919*

JOHN E. LANE, M.D., *Chairman*

### SPOON NAILS. Presented by DR. WISE.

The patient, W. L., aged 30, was a sailor, and the condition had existed for four months. He was a patient from Dr. Fordyce's clinic. All the nails of both hands, except the left thumb and little finger, presented a well defined central depression, occupying nearly the entire face of the nails, giving them a distinct basin or cuplike appearance, with raising of the distal ends of the nails. In addition, the nails were crumbly, pitted, rough, and moderately discolored. The toe nails were not affected. Scrapings for tinea and also the Wassermann test were negative.

#### DISCUSSION

DR. POLLITZER said that spoon-nail, or choilonychia, is a deformity of the nails in which, however, the surface remains smooth. In this case there was evidently a complication—a roughening of the surface which suggested a fungus, and this should be sought.

### LUPUS (?) OF THE NOSE. Presented by DR. LANE.

V. B., Italian, aged 33, was referred by Dr. Phillips with a report that "for sixteen months there had been difficulty in breathing through the nose. The septum was deviated to the left, and there was hypertrophy of the middle and inferior turbinates. There was a granular thickening of the mucous membrane of the nose as far back as could be seen. There was also a viscid yellowish secretion in the nostril and almost complete occlusion of the left nostril. In the right nostril the swelling was chiefly confined to the septum." The lower half of the nose was red and swollen, with slight scaling in a few locations. There were a few doubtful lupomata at the end of the nose. The Wassermann reaction was negative; von Pirquet, strongly positive.

#### DISCUSSION

DR. LANE said that he was somewhat in doubt as to the diagnosis. A few days ago he thought he saw some lupoid nodules under pressure, but was not sure they were pigmented scars. A small biopsy was made from the inside of the nose and some staphylococci were found, but no tubercle bacillus.

DR. POLLITZER inclined to the diagnosis of a tuberculous process. The fact that there were no nodules simply meant that it was not a typical lupus, but he believed it to be tuberculous; it would be a great help if a biopsy could be made.

DR. MACKEE said he could not make a clinical diagnosis. Syphilis had been ruled out. Therefore the differential diagnosis would lie between tuberculosis and pyoderma—a streptogenic lymphangitis, chronic of course, originating in the mucous membrane.



## SARCOMATOSIS CUTIS OR SARCOID (?) Presented by DR. MACKEE.

The patient, P. B., from Dr. Fordyce's clinic, was a man, aged 49. He was born in Germany, but had been in this country for forty-seven years. One year ago the patient received an injury to the right leg which caused considerable pain for several months. Eight months ago the testicle began to swell. The cutaneous lesions began about one month ago.

The patient presented a marked, painless enlargement of the right testicle and epididymis. The cutaneous lesions were about a dozen in number and were scattered over the chest, abdomen and back. They ranged in size from a dime to a silver dollar, with one lesion on the abdomen the size of an adult palm. The large patch was oblong; the others were round; the margins were sharply defined. They were all of a somewhat violaceous color, considerably infiltrated, slightly elevated, and very firm on palpation. There were no subjective symptoms. There were no scales, the skin covering the lesions being smooth, shiny, somewhat translucent and telangiectatic. The Wassermann reaction was negative. It had not been possible to obtain a biopsy.\*

## DISCUSSION

DR. POLLITZER inclined to the diagnosis of sarcoid. It was very different from sarcoma. The condition in the left testicle started eight months ago; in the right testicle a couple of months ago. On the right side the testicle was very hard and distinctly nodular and one could make out the nodules on the cord; that on the left side was much larger and smooth. The process was probably associated with the skin process, but it did not seem to be sarcoma. It seemed more likely to be a tuberculous process in the testicle, and the skin lesions were probably sarcoid. The speaker said he could not imagine a sarcoma affecting the skin in such diffuse and superficial lesions.

DR. OULMAN agreed with Dr. Pollitzer in considering the condition as a sarcoid and the lesions of the epididymis as tuberculous; but at the same time he called attention to the fact that in those skin lesions where there was a doubt as to the differentiation between sarcoid and sarcomatosis cutis, the microscopic examination proved the case to be cancer.

DR. ABRAWOWITZ said that in his opinion the man had a sarcoma of the bone and testicles, with a beginning skin metastases. Dr. MacKee, who was called in consultation when the patient was first seen, thought of the possibility of sarcoid, as well as sarcoma.

DR. MACKEE said that a biopsy had been made on the patient at the Presbyterian Hospital, and an attempt would be made to obtain a report from the hospital. The question between sarcoma and sarcoid had been discussed and they finally concluded it was sarcoma. Not only was the involvement very rapid, but some of the lesions were linear plaques which seemed to be spreading, and that would favor sarcoma rather than sarcoid.

## SARCOMA OF STERNO-CLAVICULAR REGION. Presented by DR. WISE.

The patient, C. A., an Italian, aged 54, from Dr. Fordyce's clinic, said that the affection began three months ago. It started as a small, painless, subcutaneous nodule in the left sterno-clavicular region. The lesion steadily increased in size. At presentation, the lesion was 4 by 2 inches, semi-globular, firm, livid red in color and not tender, and presented a moderate amount of ulceration on the surface. A Wassermann test was negative.

## DISCUSSION

DR. BECHET said that he had seen the case a few days previously. The patient had been referred by an Italian physician. The history that he obtained from

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\* Subsequent biopsy and microscopic examination revealed a perithelioma.

the man and his daughter was to the effect that the lesion first resembled a warty growth; this had been clipped or cut off, after which rapid growth ensued; it only proved how rapid the growth of sarcoma was after ineffectual attempts at removal.

#### TUBERCULOSIS CUTIS. Presented by DR. WISE.

Minnie C., aged 10, from Dr. Fordyce's clinic, was of Italian parentage, and born in this country. The duration of the lesions was five months, and their distribution was on both legs, especially the left. The left leg below the knee presented numerous ulcers varying in size from 10-cent piece to several inches in diameter. The lesions were disseminated from the knee down and the front and back of the leg. The ulcers had sluggish indolent floors with sharply defined rolled borders. The right leg presented one dime sized ulcer on the calf, and numerous small scaly and papular spots, representing beginning lesions. The parents said that a short time before the appearance of the eruption the patient had been bitten by a mosquito. They also asserted that a short time after the appearance of the eruption, the patient had influenza, for which her physician prescribed. That she took the medicine only a few days, and that she never had taken any other medicine previously or subsequently—even headache remedies.

#### DISCUSSION

DR. ABRAMOWITZ said that owing to the question in regard to the diagnosis, he had taken pains to ascertain if the patient had taken any medicine before the eruption appeared. The parents were positive that the eruption was present before any medicine was taken.\* A biopsy will be taken and a report given at the next meeting.

DR. OULMAN did not consider the case to be tuberculosis, as the discoloration, the formation of rather hard granulation tumors in some of the lesions, and the configuration did not suggest this diagnosis. He regarded the case as bromoderma tuberosum. After the patient's statement this diagnosis should be excluded; such statements were often unreliable, and in his opinion no other diagnosis could be made. He could not see any indication of lichen, as suggested by one of the observers. The treatment seemed to have changed the former aspect considerably.

DR. PAROUNAGIAN thought the condition due to congenital syphilis. The patient had notched teeth. He had seen the patient before at another meeting, and at that time thought it was a case of syphilis.

DR. ROSTENBERG was inclined to consider the condition tuberculous, showing an atypical form of erythema (Bazin) with ulceration.

DR. ROTHWELL suggested that Dr. Abramowitz was withholding his own opinion of the case, and said that the appearance of the lesion on the left leg suggested a bromoderma. The parents did not think she had received any salty

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\* NOTE: The following ingredients were present in the original prescription, which the patient took for a short time, and which was obtained from the parents.

R

Tinct. Hyoscyam. ....	m	xii
Liq. Potass. arsenit. ....	m	vi
Pulv. pepsin ....	gr.	xii
Lutein ....	℥	ii
Syrup simpl. ....	℥	ss
Liq. Calcis ....	℥	iii
Liq. potass. citrat. q. s. ad. ....	℥	iii

M. S.: One teaspoon every two and a half hours.

medicine, and the case was presented with a history of no medicine having been taken beforehand. Clinically the appearance of the child's left leg would warrant a diagnosis of bromoderma. He said he had not thought of looking at the teeth.

DR. MACKEE said that clinically the case was one of bromid eruption.

DR. POLLITZER said that in his opinion the condition was not tuberculous and not syphilitic, but probably was a bromoderma. Against the tuberculous process, was the simultaneous appearance of a great number of lesions on both extremities, their superficial character, and their manifest tendency to healing.

DR. LANE said he understood that the Wassermann reaction was negative. There was nothing about the lesions to suggest syphilis, and with the extensive lesions present one would ordinarily get a positive Wassermann reaction, even in a case of congenital syphilis. The case impressed him as a bromoderma, but one of the large lesions on the leg looked like what the French call a tuberculous gumma. That, however, was only one of the lesions; it was healing, and hence its appearance was not of much aid in the diagnosis.

DR. BECHET said that he had seen the case three weeks previously; at that time he had agreed with the diagnosis of tuberculosis. Since then the lesions had improved enormously, and their present appearance would suggest bromoderma. Tuberculosis would never have shown such rapid improvement.

CHRONIC LYMPHANGITIS. Presented by DR. ABRAMOWITZ.

Mrs. I. M., aged 50, from Dr. Fordyce's clinic, was a widow, Russian, and eight years in this country. Three years ago a sliver of wood got in her right index finger, and since then her finger began to swell. She had pain occasionally. The entire index finger was about one and a half times the normal size, the last phalanx being somewhat thicker. There was very little perionychial reddening, but some pain on pressure of the ulnar side of the end of the finger.

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#### MANHATTAN DERMATOLOGICAL SOCIETY

*Regular Meeting, Jan. 14, 1919*

PAUL E. BECHET, M.D., *Chairman*

PURPURA OF UNUSUAL TYPE. Presented by DR. WISE.

Mr. A. G., a private patient, aged 50, presented a widespread eruption on the trunk and extremities. It was of about six weeks' duration, and began on the legs in the form of a purpura, which disappeared after two weeks' local applications of calamine lotion. The eruption, on presentation, consisted of small, yellowish, slightly elevated, less than pinhead-sized papules and macules, apparently situated at the mouth of the hair follicles; on the arms, forearms and abdomen these lesions were separated from each other by apparently normal skin. On the back, chest and shoulders the spots had become more or less confluent, giving rise to an erythematous rash. There was no itching or desquamation. Pressure with glass caused only a partial subsidence of the color of the lesions. The patient was being treated by his family doctor for intestinal toxemia and indicanuria.

#### DISCUSSION

DR. GOTTHEIL expressed the opinion that the condition was a seborrheic eczema. He could not see any purpura.

DR. PAROUNAGIAN agreed with Dr. Gottheil for want of a better diagnosis.



DR. G. H. FOX saw no evidence of either purpura or seborrhea. He would call it an erythemato-papular eczema. There was considerable effusion in the papules, but little if any purplish color.

DR. MACKEE suggested that the eruption represented a papular erythema with follicular hemorrhages.

DR. WEISS told of a case shown by him many years ago before the Society as lichen hemorrhagicus. The lesions were distributed mostly over both arms. It had very minute, palpably raised papules, but a little darker than these, and resembled Dr. Wise's case very closely, with the exception that the purpuric condition was more marked. This accounted for the diagnosis of purpura, amplifying the term lichen, much used at that time for minute papular lesions. The speaker intended to show a photograph of the case at the next meeting.

DR. BECHET said that Dr. Wise had stated that the man had had an extensive purpura on the legs. It was not uncommon to see these small macular hemorrhagic lesions on the arms. He agreed with Dr. Wise in the diagnosis.

DR. WISE inclined to Dr. MacKee's diagnosis in the absence of true purpura. Still, there was no reason to assume that these lesions might not be true purpuric spots. A biopsy would be required to determine the matter. It could not be an eczema. The man had had the condition for eight weeks and there was no itching or scaling. It was either a follicular erythema or a true follicular purpura.

#### MULTIPLE ANGIOMAS. Presented by DR. WEISS.

The patient was a female infant. There was a purplish red compressible growth with an uneven, spongy, slightly protruding, nodular surface, situated on the left labium majus, imparting a sense of density to the touch, besides its compressibility; it also showed connective tissue increase and probably some lymphangiomatous development. There were also two other flat nevi, one on the left thorax in the axillary line, and the other on the top of the head. According to the mother's statement, the one on the genitals was congenital; the other two made their appearance soon after birth.

#### DISCUSSION

DR. GOTTHEIL said that the nevi could be easily cured by carbon dioxid.

DR. MACKEE said that cavernous vascular nevi would often improve and even disappear spontaneously, but this required many years. Solid carbon dioxid, as mentioned by Dr. Gottheil, was a good treatment in these cases, but it was painful, temporarily disfiguring, and liable to infection. The speaker thought that the beta rays of radium produced the best result with the least disturbance.

#### MULTIPLE PIGMENTED NEVI. Presented by DR. WALLHAUSER.

The patient was a baby, 3 months old, presenting numerous large pigmented and hairy nevi, involving the greater part of the cutaneous surface.

#### DISCUSSION

DR. GOTTHEIL said that he had never before seen so extensive and dark a pigmentation.

#### MONILETHRIX IN A MOTHER AND TWO CHILDREN. Presented by DR. WISE.

The speaker presented a family consisting of a mother and three children. The mother and two of the children, a girl of 3 and a boy of 5, presented the lesions. The father said that the girl was one of a pair of twins, the other being a still-birth, who was also affected. The appearance of the scalp was



identical in both the boy and the girl, being less marked in the mother. The backs of the scalp and parietal regions were moth eaten in appearance and studded with short and very fine hairs which on very close inspection showed beading. Magnification with a low power lens showed this more accurately. Keratosis pilaris was also present in the affected areas. None of the mother's ancestors had had the disease. In reply to an inquiry, the speaker said he would try epilation with the roentgen rays, let the hair grow in again, and note the result.

## DISCUSSION

DR. MACKEE said that Low of England had employed the roentgen ray in a case of monilethrix, but that when the hair grew again the nodes reappeared. In reply to a question by Dr. Gottheil, the speaker said that the nodes represented the unaltered hair, while the constricted portions represented the disease. The affection was a periodic arrest of development of the hair. The cause was unknown.

DR. GOTTHEIL said that some disorder of the hair follicles was at the root of the condition. The hair of the children was very thin and silky.

SCROFULODERMA. Presented by DR. BECHET.

The patient, a girl of 12, stated that two years previously she had undergone an operation whereby a number of enlarged and suppurating lymphatic glands had been excised. One year later a second operation was performed. She presented for examination extensive linear scars, with here and there an enlarged and painful gland. There were several sinuses leading down into the diseased glands. A rather watery pus could be expressed from several of the sinuses.

TUBERCULOSIS CUTIS OF THE ARM. Presented by DR. OCHS.

The patient was a negro boy, 4½ years old. The only history obtainable from the father was that the child had a slight injury about a year ago, being hit on the arm, and that last March a surgeon for this reason excised a small lump on his wrist, since which time the boy had a small circular infiltrated lesion of the forearm. The lesion was about the size of a 10-cent piece and was verrucous in appearance. Presumably it was a case of tuberculosis cutis.

## DISCUSSION

DR. WISE did not think the lesion had the characteristic appearance of tuberculosis verrucosa, and thought a biopsy was necessary to differentiate it from tinea profunda.

DR. OCHS asked if in tinea profunda the lesion would remain the same throughout the course of the disease. The child had the condition for eleven months. He had seen it the other day for the first time, and the mother said that it had been excised. The child was supposed to have been struck with a stick by another boy, and a tumor developed and was excised; this was the result of the excision. As the mother said, it was beginning to get warty. The speaker said he did not wish to press the diagnosis over much, but could not make any other. As Dr. Wise had said, the biopsy would determine the matter. Should it prove to be tuberculosis, it was in the youngest case he had ever seen.

RINGWORM OF SCALP AND TRUNK. Presented by DR. WISE.

The patient was a negro boy, from the Vanderbilt Clinic, who was suffering from ringworm of the scalp. The latter received roentgen-ray treatment, and the hair began to fall and was still falling. He appeared the other day with a widespread eruption over the body, evidently a tinea, probably a dis-

semination of the ringworm from the scalp and neck. This was the third case of tinea of the scalp seen at the Vanderbilt Clinic, where the lesions had spread over the body after roentgenization of the scalp.

## DISCUSSION

DR. OCHS disagreed with the diagnosis. The condition of the scalp was certainly tinea, but not the condition of the body. That would seem to be seborrheic, as he had seen many cases, especially in the colored, that presented just such lesions of the body, which proved to be seborrhea.

DR. BECHET said that the lesions ran down the middle of the back of the neck from the margin of the hair. This was not the location of a seborrheic eczema. He agreed with the diagnosis of the presenter.

DR. WISE decidedly disagreed with Dr. Ochs, and stated his belief that the eruption on the body was tinea, as well as tinea of the scalp. At the next meeting he would attempt to bring either a microscopic slide or a culture, to determine the matter.

## VON RECKLINGHAUSEN'S DISEASE. Presented by DR. WISE.

Mrs. E. T., aged 54, from Dr. Fordyce's clinic, gave a history of having had typhoid fever in early youth and stated that the tumors developed afterward. The entire body was covered with numerous freckles, together with isolated and coalescent hemispherical nodules, some pedunculated, others sessile. The sessile tumors were on the neck and chin, the pedunculated on the breast. The scalp and forehead presented a severe seborrheic eczema.

## VON RECKLINGHAUSEN'S DISEASE. Presented by DR. WISE.

G. S., a boy, aged 15, was born in the United States. Ever since he could remember he had small nodules under the skin all over his body. Also he had pigmented nevi scattered over different parts of his body. The patient was under the care of Dr. Abramowitz, who took a biopsy which showed the typical nerve sheath tumors. It was a milder type of neurofibroma, or really a neuroma, being *under* rather than *on* the skin.

## VON RECKLINGHAUSEN'S DISEASE. Presented by DR. WISE.

The patient, E. F., aged 28, was born in the United States, also from Dr. Fordyce's clinic. The condition had existed for twenty-one years. There were innumerable lesions from the base of the neck to the knees; most of the lesions were situated on the flanks, the rest were scattered on the neck, thighs and arms. The tumors varied in size from a pinhead to a walnut, and their color varied from a faint yellow to a dark brown. Some lesions were pedunculated, others were sessile, others were more like soft moles. There were also present about a dozen *café-au-lait* spots, varying in size from one to three inches in diameter.

## VON RECKLINGHAUSEN'S DISEASE. Presented by DR. WISE.

The patient, J. L., from Dr. Fordyce's clinic, was 27 years old. He had the lesions as far back as he could remember. The back of the patient's neck presented a mottled type of leukoderma suggestive of syphilis. Scattered irregularly over the body were soft pea-sized nodules, four of which were on the abdomen and chest. The back presented one-half dozen *café-au-lait* spots, one of which, on the right side of the sacrum, presented a small lentil-sized nodule. The patient stuttered and hesitated a good deal in his speech. He denied venereal infection. The Wassermann reaction was ++++.

## DISCUSSION

DR. WISE said that a recent British writer had reported three cases entirely cured by the use of thyroid extract.

DR. FOX said that he had never seen fibroma cured except by surgical treatment. He had seen no results from arsenic. He further said that he thought it was a mistake to call all of these cases "Recklinghausen's Disease." They were cases of fibroma of the soft or molluscous type. Recklinghausen called attention to the fact that in certain cases the pouchlike tumors were associated with freckles and pigmentary areas, and claimed that the tumors were neurofibromas.

DR. WISE said that as he understood it, von Recklinghausen's disease and neurofibromatosis were the same, both arising from the nerve sheath and giving rise to cutaneous lesions. The neuromas, on the other hand, were subcutaneous tumors, covered by normal skin, painful to the touch; there were no *café-au-lait* spots and no lesions that gave the impression of making a hole in the skin on pressure. These cases represented true tumors of the nerve sheath; they did not affect the skin itself, but were essentially subcutaneous. The speaker had exhibited such a case several months before.

## CASE FOR DIAGNOSIS. Presented by DR. WISE.

The patient was a girl, aged 18, from the speaker's service at Mt. Sinai Hospital dispensary. She gave a history of having had a fall about a year ago, which caused a slight injury to her right elbow. Five months after the fall, she suddenly experienced acute pain and swelling of the right hand. Last August the skin of the right hand became tense, swollen, and later it assumed a parchmentlike appearance. There was considerable stiffness of the hand, which the patient was unable to flex. It felt cold and lifeless. The knuckle of the middle finger was prominent and tender to pressure. The appearance of the hand suggested a trophic nerve disturbance. The report of the Wassermann test had not been as yet available.

## DISCUSSION

DR. GOTTHEIL said that there was a distinct history of injury, a unilateral condition developing afterward. It was difficult to say what the condition was, for the girl had no pain or paresthesia in the hand, but the pain came on after the injury. Some one had said that one can get almost any evidence from such a patient by leading her a little, but he himself distinctly understood her to say that the trouble came on after an injury. It was a very interesting case, and it would be more interesting to learn the condition of the muscles of the arm, in reaching a conclusion as to the diagnosis.

DR. G. H. FOX agreed with Dr. Gottheil that it was a case of atrophy of the skin as a result of nerve injury. It often developed after quite a lapse of time.

DR. GILMOUR said he thought the ulnar nerve was enlarged, and that the sensation of the fingers was a little dulled. He had also noticed that the dorsal surface of the metacarpal bone of the middle finger was a little enlarged, and advised a roentgenogram to be taken.

DR. WISE said that the patient had spent four weeks in Bellevue and three weeks in Mount Sinai Hospital, without the slightest trace of improvement. She was unable to work, and had not been helped in any degree. What the neurologic condition was he could not say.

## CHRONIC RELAPSING ERYSIPELOID. Presented by DR. OCHS.

The patient was a woman, aged 18, who nine years ago had an attack which involved the face; since then she had had repeated attacks, the last one in



March of last year. Last Friday she first came under observation with what had the appearance of an angioneurotic edema of the lower lip, and the eyes were very little affected with an erythema. Since that time she had been at home and under treatment, and now came back with another attack involving both lower eyelids and the sides of the face. Each attack left the face a little more infiltrated and swollen. The case was presented with a request for suggestions as to treatment. The patient had had a nasal examination, and nothing abnormal was found there.

## DISCUSSION

DR. MACKEE suggested the diagnosis of chronic streptococcic lymphangitis, possibly of the type known as elephantiasis nostras.

## ADENOMA SEBACEUM? Presented by DR. WISE.

The patient was a colored woman, aged 27, from Dr. Fordyce's clinic. It was presented as a case of adenoma sebaceum in a colored woman.

The lesions consisted of pinhead sized, dark brown, almost black, smooth papules, located on both cheeks below the eyes. The lesions were present since birth.\*

## DISCUSSION

DR. MACKEE questioned the diagnosis, and thought that it might be a case of benign cystic epithelioma.

DRS. GOTTHEIL and WISE agreed with Dr. MacKee that it might be an instance of benign cystic epithelioma, but that a definite clinical differentiation in this case was extremely difficult.

## SYPHILIS (REINFECTION?). Presented by DR. BECHET.

J. D., aged 26, from Dr. Trimble's service, stated that at the age of 14 he noticed an indurated lesion on the penis; this was cauterized, and some anti-syphilitic treatment was taken by mouth for a short while. The lesion disappeared after five weeks. Until the age of 22 the patient remained perfectly well, without any treatment. At that time he developed a pustular eruption, generalized in distribution, but particularly extensive on the face. No lesion had occurred on the penis since the age of 14. The Wassermann reaction was +++++. The eruption was diagnosed as syphilis by his medical attendant. He received four arsphenamin injections in all, and mercury by inunction and by mouth, with iodid of potassium from time to time, for four years. The patient stated that the eruption rapidly disappeared under specific treatment, leaving the punched-out scars discernible on the face; these scars certainly resembled in their general morphology those usually observed after the healing of late syphilitic lesions. Since 1912 he had had absolutely no specific treatment, and in that interval three Wassermann reactions by three different serologists were made, and they were all negative. He remained perfectly well and free from symptoms until Oct. 1, 1918, when he noticed a small indurated lesion on the penis, back of the corona. The lesion appeared on shipboard about two weeks, according to the patient's statement, after intercourse. It was cauterized by a ship surgeon twenty-eight times. Jan. 6, 1919, he presented himself for examination at the clinic. At that time he had a very large, boardlike, indurated lesion, typically chancere like in appearance, with an indefinite adenopathy, but no cutaneous eruption. A dark-field examination for spirochetes was negative. The Wassermann test was +++++.

## DISCUSSION

DR. BECHET said that the patient was bright and intelligent, and the history was so clear, that it warranted the suspicion of a reinfection. The weak points

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\*Biopsy later revealed the tumors to be nevi.



in the history were the absence of secondaries, and the negative spirochete findings from scrapings of the penile lesion. He agreed with the diagnosis of gumma. In his opinion it was not a superinfection.

DR. GOTTHEIL expressed the opinion that it was an irritated gummatous ulceration.

DR. BECHET, replying to an inquiry from Dr. Parounagian, said that the last test gave a Wassermann ++++, after being negative four years.

MAJOR KLAUDER (by invitation) regarded the case as either one of gumma or superinfection, but did not think it was an instance of reinfection, as it was not plausible that the treatment this man had had was sufficient to cure his infection. Moreover, he did not think reinfection should be diagnosed in the absence of a secondary eruption following a chancre, as many instances of genital lesions appearing on syphilitics were instances of superinfection which were often mistaken for reinfection.

#### FIBRO SARCOMAS. Presented by DR. OCHS.

The patient, Joseph M., aged 41, born in the Danish West Indies, about a year ago noticed a small nodule, about the size of a bean, on the left buttock. Three months later, he was wrestling with another man and was thrown on his side, but this caused no pain to the affected side. Within a month or so the tumor started to grow, and then the patient noticed others coming.

Status Praesens: At about the center of the left buttock were three pedunculated tumors, the largest one having the skin cracked and infiltrated. In the surrounding skin were a number of pigmented nodules, about the size of a 10-cent piece. The patient was in good health and had not lost any weight.

#### DISCUSSION

DR. OCHS said that he questioned whether there should be any excision. The patient had been sent to him by a surgeon with that in view, and in the speaker's opinion it would not be a wise procedure, as metastases were liable to occur very rapidly and thus destroy the life of the patient.

DR. GILMOUR said that the man stated he had never had any pain, only a little irritation from rubbing. The speaker wished to know if the members had found it usual for patients with a sarcoma of this size and character to suffer from pain.

DR. WISE asked what Dr. Ochs proposed to do for the patient if he were not operated on. He expressed the opinion that an operation for removal of the tumors was strongly indicated, followed by roentgen-ray treatment.

DR. BECHET asked Dr. McKee what was the result of postoperative treatment with the roentgen ray in these cases.

DR. MACKEE said that the roentgen ray acted very well on sarcoma, and he thought in this case one would be justified in trying postoperative roentgen-ray treatment. Operation, however, would be very difficult, for the surgeon could only remove the tumor, not the disease, since the patient had a sarcomatous lymphangitis of the buttocks. The thing to do would be to remove the main bulk of the disease and immediately roentgen ray the whole area. The speaker said that the fibroma element was probable as two of the pedunculated tumors markedly suggested keloid.

DR. GOTTHEIL said that it was uncertain how much of the condition was sarcomatous and how much fibromatous, and that Dr. MacKee's suggestion of keloid was a good one.

DR. OCHS said that this was the second case of its kind that he had presented before the Society. The other patient had the lesion on the anterior part of the leg. He felt that if any case of that type was operated on death would quickly supervene, and as the man was otherwise in good health it did not seem wise to operate.

DR. WISE said that if the tumor kept on ulcerating the man would soon have a hemorrhage which would possibly result fatally.

DR. ABRAMOWITZ told of a patient who had sarcoma of the right gluteal region for six or seven years; he had four operations and recurrences. Dr. MacKee was consulted and suggested roentgen-ray treatment as the only possible remedy. This was applied at the General Memorial Hospital, but the man died a short time afterward from a toxemia evidently due to a rapid disintegration of the tumor.

DR. BECHET spoke of a case seen three years previously. The patient had had a small tumor about the size of a lentil on the lobule of the ear. He excised it, cauterized its base with the electro-cautery, and submitted it to Dr. Highman for microscopical examination. Dr. Highman reported that it was a typical sarcoma. There had been no recurrence, the patient remaining well.

LICHEN PLANUS VERRUCOSUS. Presented by DR. BECHET.

S. R., a male adult, from Dr. Trimble's service, presented for examination a large number of confluent plaques on the anterior surface of both legs. The lesions were very numerous, greatly thickened, of a dark violaceous color, with roughened wartlike surfaces. There were characteristic lichen planus lesions on the glans penis.

RHINOSCLEROMA. Presented by DR. MACKEE.

The patient was a man, aged 32, born in Austria and had lived nine years in this country. He was a laborer. He presented himself at Dr. Fordyce's clinic, stating that the duration of his illness was four months, and that it began in the inside of his right nostril. The nose was considerably deformed and thickened and felt stony hard to the touch. There was marked thickening of the septum with almost complete blocking of the right nostril with a warty looking growth. Near the tip of the nose there was a nodule the size of a split pea, deep red in color, hard and slightly tender. Over the middle of the nose there was a dime-sized nodule with the definite ulceration in the center. There was a conjunctivitis and a dacryocystitis of the right eye. Clinically the lesion was atypical but histologic examination showed the structure of rhinoscleroma. The man was under roentgen-ray treatment, and it was hoped he would be cured.

#### DISCUSSION

DR. GOTTHEIL said that the roentgen ray was the only treatment to be considered.

DR. BAILEY (by invitation) said that a piece of tissue, excised from this patient's nose showed the typical histologic picture of rhinoscleroma. Bacilli were present in great numbers in large cells in the lesions, and the so-called rhinoscleroma or Frisch bacillus had been obtained by culture of the tissue. The patient's blood had been cultured with negative results and serologic reactions had been tried against the organism obtained from the tissue. For the complement fixation reaction the Wassermann technic was used. Antigens made in several ways were about equally efficacious, as by extracting and autolyzing the bacilli in salt solution; also water, afterward making isotonic with salt; and by grinding dried bacilli in salt and then making an isotonic solution by the addition of water. By the use of these methods complete complement fixation was obtained with 0.005 c. c. of the patient's serum in a full unit Wassermann. The blood of one normal individual gave no fixation with 0.2 c. c. using the same antigens. This patient's Wassermann reaction, done by Dr. Ottenberg, was negative. Agglutination of these encapsulated organisms offered technical difficulties. By the use of the method of Porges an agglutination of the strain from this case was obtained in a 1/360 dilution of

the patient's serum, but only after standing for about forty-eight hours. The controls, however, showed no agglutination.

There were two mooted questions in regard to the rhinoscleroma bacillus: the first, as to its etiologic relationship to the disease "rhinoscleroma." Complement fixation reactions had previously been obtained in rhinoscleroma, on one case by Goldzieher and Neuber, and on two cases by Galli-Valerio. These workers used 0.2 c. c. of the patient's serum. The former concluded that by obtaining this reaction they proved the etiologic relationship of the bacillus to the disease. The latter was more conservative in his conclusions and with him the speaker was thus far substantially in agreement. It was not inconceivable that the body should produce antibodies to a secondary invader, in fact, this occurred; but he did not know of any condition in which such antibodies had been demonstrated in such large amounts. This demonstration of the presence of antibodies in large amount, like Goldzieher and Neuber's demonstration of their presence, was of course not proof of the etiologic relationship of the bacillus, but it seemed to him probable that these bacteria, which were present in the lesion in such large numbers, and which were the cause of such marked serologic reactions, were also of importance in the production of the tissue reactions which were seen in the gross in this patient.

The second question concerned the relationship of the rhinoscleroma bacillus to other members of this gram-negative encapsulated group of organisms, and particularly to *Bacillus mucosus capsulatus* or Friedländer's bacillus, which was an occasional inhabitant of the normal nose. This patient's serum was also tested with similar antigens made from a single strain of *Bacillus mucosus capsulatus*, and both agglutination and complement fixation reactions were obtained in almost, but not quite, as high dilutions as with the rhinoscleroma bacillus. The source, however, of the Friedländer bacillus was unfortunately not known, and moreover we knew that related but distinct organisms may produce group immune bodies in large amounts and, on the other hand, that different strains of what we now classify as the same organisms may produce distinct antibodies. Thus a grouping of bacteria by their biologic reactions would differ from our present classification on the basis of morphologic and cultural characteristics only. Consequently, the speaker could not draw any conclusions as to the identity of the rhinoscleroma and Friedländer's bacilli from these few experiments. There was considerable work to be done on this subject. The experiments on this case were incomplete and these remarks were of course only preliminary.

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#### MANHATTAN DERMATOLOGICAL SOCIETY

*Regular Meeting, Feb. 11, 1919*

PAUL E. BECHET, M.D., *Chairman*

CHANCRE OF THE LIP IN A CHILD AGED TWO YEARS. Presented  
by DR. GOTTHEIL.

Sadie K., aged 2, presented a typical sclerosis of large size on her lower lip, which had been present and growing for five weeks. The spirochete examination was positive. This history of inoculation was interesting. The father and mother were unaffected. Of the four children in the family two were affected with tuberculosis of the hip, and were in the Tuberculosis Hospital of the Charities Department of this city. The third child was well; the fourth was the present patient.

For several months, however, the husband's brother who was said to be "queer" or weak-minded, had been living in the household; he was said to have some throat trouble, but the speaker had not been able to examine him.



This man's actions with his little niece had been the subject of comment even by the neighbors. He was not only frequently and publicly kissing her on the mouth, but the neighbors stated that he was in the habit of sucking the child's lips. It was possible that some form of sexual perversion was involved. The matter had been called to the attention of the proper authorities.

CASE FOR DIAGNOSIS. (Granuloma Annulare?) Presented by DR. BECHET.

H. M., a young lady, aged 20, first noticed the eruption three months previously. In July, 1918, some cervical glands were excised; at the time they were considered tuberculous. On the left side of the neck enlarged glands could be palpated. On the dorsal surfaces of the distal phalanges were a number of purplish red lesions, some of which were papular, others nodular, crescentic and ringed. Occasionally a perfect ring occurred with nodular, raised, hard borders and normal center. Seemingly cold had no effect on the lesions; they were apt to be much worse on warm days.

The speaker said that this case showed a decided tendency to ring formation, the borders of the ring being nodular and hard, and its center normal. A point against the diagnosis of granuloma annulare was the rather transient appearance of the lesions; they disappeared in three to four weeks, to recur again; in granuloma annulare the lesions were much more lasting. In this case, again, cold seemed to have no effect on the lesions. They were just as apt to be worse on warm days. The case was probably an atypical pernio.

CASE FOR DIAGNOSIS. Presented by DR. BECHET.

A female adult, aged 26, stated that ten years previously she noticed a small nodular lesion on the left side of the face in front of the ear. The lesion steadily increased in size, assuming the proportions of a small subcutaneous tumor. In 1911 it broke down, and was cauterized. In 1913 a similar lesion appeared beneath the left eye. In March, 1914, she was presented before the Society for diagnosis. The consensus of opinion at the time was that the case was one of sarcoid. With arsenical therapy and roentgen ray, the tumor beneath the eye disappeared entirely. The scar in front of the ear from the cauterized lesion remained, but all evidence of disease had disappeared. In December, 1915, the patient first noticed the lesions on the fingers, which were presented for diagnosis. The lesions disappeared in summer. They made their appearance in October and lasted well into May; they were not permanent, but came on in recurrent attacks, and consisted of irregularly outlined, swollen, nodular, reddened, rather smallish areas. There was no tendency to ring formation. They were considerably indurated. A diagnosis of pernio was rather clouded by the fact that the eruption occurred so early and late—October and May—and that outside of its absence in midsummer, temperature did not seem to have much influence on it.

DISCUSSION

DR. GOTTHEIL suggested a diagnosis of lupus pernio.

DR. LEVIN regarded both cases as examples of erythema pernio. The first case with papule formation represented the first degree or mild type of the disease, while the second case showed the presence of vesicles on top of the lesions and represented the second degree or more severe type of erythema pernio.

DR. OULMAN agreed with the diagnosis of pernio; the first patient showed the beginning stage, the more acute form; the other, the more chronic form.

DR. LEVIN asked if there was any distinction made between lupus pernio and erythema pernio. He regarded the cases as examples of erythema pernio.



DR. ROSEN replied that lupus pernio was more destructive. Erythema pernio occurred in winter time, and was erythematous with very little ulceration. The case presented by Dr. Bechet as granuloma annulare did have all the ear marks of pernio, in which the lesions disappeared in the summer time and reappeared in the winter season.

PARAPSORIASIS (?). Presented by DR. OCHS.

E. S., aged 5 months, was born free of any cutaneous lesions. When a month old, the mother noticed a patch of slightly scaly and slightly red skin, fairly sharply defined. This spread over the entire face and to the scalp. In another month individual lesions started on the abdomen and legs. On presentation, the entire body excepting the angles of the mouth, the popliteal spaces, the umbilicus, and the arms were affected with a slightly scaly erythrodermia. The scales were dry, easily detached, left no bleeding surfaces, and when pressed into cigaret paper did not leave fat stains on the paper. Itching was severe.

#### DISCUSSION

DR. ROSEN thought it was a case of seborrheic eczema. He had never seen a case of parapsoriasis with such an amount of scaling. As he understood the disease, it was characterized by erythematous plaques with very fine branny scaling. This patient had distinct greasy scales. In his opinion it was either seborrheic eczema or psoriasis.

DR. WALLHAUSER said he was strongly inclined to the diagnosis of parapsoriasis. He admitted some unusual features were present in the character of the scaling in large flakes in some locations and absence of scaling in other areas. The presence, however, of white shiny macules and papules with scale capped surfaces was a strong factor in favor of parapsoriasis.

DR. WISE said he would like to agree with Dr. Ochs that it was a case of parapsoriasis, but could not reach that conclusion for the reasons given by Dr. Rosen. It seemed to him to be a case of seborrheic eczema of unusual type.

DR. GOTTHEIL said that this case was precisely similar, save for a little greater scaling, to one presented by Dr. Ochs to this Society a year or two ago. The speaker presented a microscopic slide of this case, which he said was labelled seborrheic eczema, and said that he saw no reason why a similar diagnosis should not be made in the case under consideration.

DR. LEVIN agreed with the diagnosis of seborrheic eczema, for the reason already stated by the various speakers. Besides, the mother stated that the lesions itched intensely, and there were not only scales, but there seemed to be a tendency to moisture and the formation of crusts, which did not occur in parapsoriasis.

DR. OULMAN said that they had based the diagnosis largely on the long standing of the condition. In those instances where there was an early appearance, before a diagnosis of parapsoriasis was made a case was observed for a long time. It was possible that two conditions were present—both seborrheic eczema and parapsoriasis.

DR. GILMOUR expressed the opinion that there were two conditions—a seborrheic condition of the scalp and a parapsoriasis of the body; but the case would have to be watched to determine the final diagnosis.

DR. OCHS said that he had watched the case for a month and had seen the lesions extend. It was a question of doing something or losing the patient, and the child had been treated with salicylated oil, the mother fairly bathing the child in it. If the members had observed the case as he had, he thought they would agree with his diagnosis. As to parapsoriasis not existing on the hands and feet, Dr. Wise had some time ago presented the case of a colored man who had lesions also on the hand, in which the diagnosis of parapsoriasis.

was accepted. That was not an uncommon condition in the later stages of the disease.

The scales were slightly adherent and when picked off you did not get a film of fat—the fatty scale characteristic of seborrhea. The plaques were extending rather rapidly. He had seen the case when the back was entirely free of the lesions. Furthermore, an extensive case of seborrhea in an infant of that age would be a great rarity. The scales were not fatty. He had taken them off and placed them between cigaret paper in order to test them for moisture and fat, and had failed. He therefore still maintained that it was an example of parapsoriasis or erythrodermie en plaques. The child had been treated with ointments, but he had stopped the treatment in order to present the case. The scalp condition, however, was certainly seborrheic.

SARCOID. Presented by DR. LEVIN.

The patient, T. McL., a widower, aged 46, stated that the lesion on his left buttock was first noticed nine years ago as a nickel-sized, itching, crusted eruption. In spite of all methods of treatment applied by several physicians the lesion continued to grow slowly and became "lumpy" and intensely itchy. At one time the lesion seemed to involute under applications of the tincture of iodine, but after reaching the size of a large pea it began to enlarge again.

The past history of the patient showed that he had had the usual diseases of childhood, pneumonia as a youth, and gonorrhea twenty-five years ago. He had a chronic cough which was worse in the morning and was accompanied by expectoration but not by blood. He has never had night sweats but he stated that he tired easily, had a poor appetite and had lost 25 pounds in weight during the past two years. Fifteen years ago he had a lump in the anal region which was said to be a fistula in ano and was cured by operation. He denied syphilis.

The family history was negative excepting that a brother died fifteen years ago from tuberculosis of the throat.

The lesion when first examined nine months ago measured 3 inches in diameter, was elevated, irregular in shape, dark red in color, covered with a thick scale and situated in the gluteal region near the anus. The border was more elevated than the central zone and was formed by large pea-sized to cherry-sized, rounded, fairly firm, nodules. Scattered throughout the lesions were similar nodules which were connected with one another by elevated strands which felt more as though they were in the skin than on the surface.

The general examination showed that the patient was poorly nourished and had a flat chest. Sibilant and sonorous râles were heard all over the chest.

Under treatment with the Alpine lamp the lesion had become flat, less infiltrated, and the itching had disappeared. Only a suggestion of the nodules was left at the periphery and in the central area. In places normal skin was beginning to appear. The Wassermann reaction of the blood was negative.

#### DISCUSSION

DR. OCHS said he could not make a diagnosis clinically.

DR. WISE agreed with Dr. Ochs that one could not make a diagnosis in such a case without a biopsy. The lesions had somewhat the appearance of tuberculosis cutis altered by treatment, and they probably belonged to the tuberculosis group.

DR. LEVIN expressed regret that the condition did not show so well when presented. When he first saw the patient there were distinct nodules making up the whole border of the lesion, and there were nodules and infiltrated strands in the central zone. It was difficult to put the condition in its proper classification; he had regarded it as a form of tuberculosis, and finally concluded that it was a sarcoid because there was no evidence of it breaking down.

## SYPHILITIC OSTEOMYELITIS. Presented by DR. PAROUNAGIAN.

The patient was a woman aged 32, single, and born in the United States. Her family history was as follows: Father living, mother died at childbirth, one sister living and one died in infancy. Her personal history was negative. The condition for which she was presented consisted of a swelling on the lower third of the right femur, the duration of which was about one year. It began with considerable pain, either while walking, standing or sitting, and swelling was noticed for which she consulted a physician. A roentgenogram was taken and diagnosis of sarcoma was made and amputation was advised. She consulted another physician who had a Wassermann test made in two different laboratories with positive reactions, and another roentgenogram with a diagnosis of syphilitic osteomyelitis was obtained. Report of the roentgenologist: Lower femur and knee reveal the presence of marked subperiosteal proliferation on the anterior, internal aspect of the femur, immediately above the condyle. The area involved is 3 inches in length, and underlying same there is evidence of a low grade degenerative process involving the cortex and medullary canal; the soft tissues are not involved and no evidence of sarcoma or tuberculosis exists. The knee joint is clear. Conclusions: The condition is that of a low grade infective osteomyelitis involving the lower third of the shaft with a rather extensive involucrum.

## LEUKOPLAKIA LINGUALIS. Presented by DR. OCHS.

The patient was a woman, aged 46, and had had the lesion for a year. The Wassermann reaction was negative. She had been under observation for a month and a half. The lesion was a patch 1 by 3 inches in size on the left side of the dorsum of the tongue. The interesting feature of this case was, that the patient was a woman, a nonsmoker, and one in whom the Wassermann test was negative.

## CASE FOR DIAGNOSIS. (Keratosi Follicularis?) Presented by DR. BECHET.

F. L., a girl, aged 18, stated that the eruption was of two years' duration. The lesions were limited to the scalp and left temple, and consisted on the scalp of large, aggregated, papillomalike areas, with a rather greasy digitate surface. The lesions were of light brownish color, and of rather an offensive odor. The patch on the left temple was much smaller, less thickened, yet somewhat verrucous in appearance.

## DISCUSSION

DR. WEISS said that there were some hypertrophic changes of long standing, and that reducing agents, salicylic acid and resorcin peeling salves might be applied with benefit.

DR. LEVIN considered the case to be a seborrheic eczema associated with a disturbance of carbohydrate metabolism. He suggested general treatment, especially the cutting down of the carbohydrates in the diet, as well as local treatment in the management of the case.

DR. OCHS said that Lowenstein, the patient with Darier's disease, to whom Dr. Wise had referred, was dead; but recently he saw his daughter with a case of Darier's disease of fourteen years' standing, and she stated that as no one had been able to cure her father she surmised that no one could cure her.

DR. BECHET said that the case in daylight showed raised lesions on the scalp which were decidedly warty and digitate in appearance. The odor was not due to dirt, as the patient washed her hair once weekly. The disease had for two years resisted the most active antiseborrheic treatment. Resorcin, sulphur, salicylic acid, etc., up to 10 and 15 per cent. strength had had no effect.



Roentgen and ultra-violet rays had also been equally useless, though used to a much less extent than the ointments. In view of the persistence of the lesions and their appearance, the speaker thought that the possibility of a diagnosis of Darier's disease could be entertained.

MYCOSIS FUNGOIDES. Presented by DR. OCHS.

The patient was a man, aged 40, and the condition was of three years' duration. He presented a very extensive eruption of reddish, yellowish and violaceous plaques all over the trunk, especially on the back, chest and abdomen, together with numerous infiltrated nodules. The itching was intense. As yet, none of the lesions had broken down.

DISCUSSION

DR. OCHS said that the patient had been presented by Dr. Sherwell before the New York Dermatological Society at Dr. MacKee's office last May, and he had overheard the diagnosis of mycosis fungoides. He left Dr. Sherwell and went to another dermatologist who put him on a rice diet and kept him under observation for nine months. Then he came to the speaker and when told he could eat anything that came along he felt very happy. He wanted to know if the condition was mycosis fungoides, and threatened to commit suicide if that were the case; so it was agreed to call it seborrheal eczema in his hearing.

DR. WISE said that the condition was readily amenable to roentgen-ray therapy and could be cleared up—at least for a time—by means of  $\frac{3}{4}$  Holzknecht units at skin distance, applied once a week to the affected areas of the skin.

DR. GOTTHEIL said he had seen extensive lesions of mycosis fungoides disappear under various forms of treatment, but had never seen a case cured. The lesions would reappear shortly and the fatal result ensue. One very extensive case he had shown at a medical society as a typical instance of the disease; a few doses of Coley's mixed toxins caused an intense reaction and the disappearance of practically every lesion; and when, two months after his first presentation, the patient was shown again before the same society, he was not recognized at all. Nevertheless, a few weeks later the skin lesions reappeared all over the integument, and the patient soon died. The necropsy showed every organ of the body—liver, lungs, kidneys, heart, muscles, and brain—infiltrated with the characteristic tumors of the disease.

ERYTHEMA INDURATUM. Presented by DR. GILMOUR.

T. L., an unmarried, white woman, aged 19, was clerk by occupation. On the calf of the left leg she had a characteristic dark red, indurated spot, 1 inch in diameter, level with the surface, and not tender to the touch. Formerly there were a few smaller spots on the left calf. These never ulcerated and were absorbed without leaving any atrophy. The first patches appeared about a year ago. The lesion presented was of almost a year's duration.

CASE FOR DIAGNOSIS (Disseminated Lupus). Presented by DR. WISE.

The patient was a negress, aged 20, married, and presented lesions on the neck and face of one year's duration. On the back of the neck there were from fifteen to twenty lichenoid papules, flat and shiny, some umbilicated, varying in size from a pinhead to a lentil, and having the consistency of a keloidal acne. Slight depigmentation was present on the surface of the papules. Around the nose and on the upper eyelids there were closely crowded millet seed-sized papules, also in this location and on the nose and chin were a few flat,



popular lesions, varying in color from a dark purple to a light brown. The smaller lesions on the nose resembled *lupus vulgaris* in color and consistency.\*

## DISCUSSION

DR. OCHS said that the patient's history as given by Dr. Wise was very faulty. Some four years ago she had been under his own care at the Harlem Hospital, and he had presented the case with a tentative diagnosis of benign cystic epithelioma. That diagnosis was accepted and a biopsy was made. Later on, a dermatologist treated the patient with radium, and she claimed that he "burned" her, and she said that no one should ever again use radium on her. Then she left New York, and now stated that the lesions disappeared and then reappeared.

The speaker said that he had watched the condition on the back of the neck as it developed. It was a keloid acne, of two years' duration; but the lesions on the face and nose were of five years' duration. When she was under observation before, all agreed that it might be a benign cystic epithelioma. The lesions on the nose were shiny; those on the back were keloidal. If the discussion were referred to, he thought it would be found that Dr. G. H. Fox discussed the case along those lines.

DR. GOTTHEIL suggested that it might be a case of xanthoma.

DR. ROSEN agreed with Dr. Gottheil that some of the lesions looked xanthomatous—those on the back of the neck which Dr. Ochs had described as keloidal. The lesions on the alae of the nose extending inward looked syphilitic. A biopsy would clear up the doubt.

DR. G. H. FOX said that though the lesions on the eyelid suggested xanthoma and those on the back of the neck acne keloid, he was inclined to think they were all of the same nature, and the microscope ought to reveal the correct diagnosis.

DR. OULMAN cited a case where there were xanthomatous lesions even in the mouth. The case cleared up later, leaving the entire body free of lesions.

DR. WISE said that Dr. Ochs had correctly stated that the history of the patient was extremely unreliable, as shown by her statement that her former physician had "burned" her with radium rays. That evidently was not so and could be eliminated, for there was no evidence of a radio-dermatitis anywhere. The eruption could not be xanthoma, for the lesions came and went, and xanthoma did not act that way. He agreed with those speakers who thought the lesions on the back of the neck and on the face represented the same condition. He disagreed with Dr. Ochs' view that the lesions on the back of the neck were keloid acne; if that were so the lesions would have been more likely to occur below the hair line instead of almost between the shoulder blades; and there were no other symptoms of that condition, so rare in women.

The lesions on the nose and in the alae more closely resembled multiple benign epithelioma than anything else he could think of. Of course no definite diagnosis could be made without a biopsy, and such a report would be made later.

PERNIO (Extensive Case). Presented by DR. GOTTHEIL.

The patient was a woman, aged 18; stenographer; she had had a mild attack of the same affection last winter. In October, 1918, she had a second attack, which got partly better without treatment; six weeks ago it began again with increased severity. The backs of all the fingers of both hands, and the backs of the hands, were studded with large violaceous tumors, intensely itchy, which interfered greatly with her work. The feet, strange to

\* The biopsy revealed a disseminated *lupus vulgaris*.

say, were not affected. Noticeable also was the fact of the affection coming on so severely during the present exceptionally mild winter.

#### COLLOID MILIUM (?) OF THE CHEST. Presented by DR. ROSEN.

Annie W., aged 20, born in Russia. The condition began about three years ago in the epigastric region. At first she noticed numerous blackheads, then these small, hard nodules appeared. The lesions varied from pinhead to split pea in size; they were hard, a little lighter than the color of the normal skin. They were about from fifty to sixty in number. Firm squeezing did not yield any contents from the lesions. There was no itching, nor tendency toward involution.

#### DISCUSSION

DR. G. H. FOX said that in the cases of colloid milium which he had seen the lesions were so soft that one could dig into them readily, while these lesions seemed to be small fibromas.

DR. GILMOUR thought it was ordinary milium.

DR. BECHET said that he had in private practice a case somewhat similar. In his case the lesions occurred on the inferior surface of the breasts only; there were no lesions elsewhere. The condition cleared up with the use of astringent lotions and a mixed acne and staphylococcic vaccine. He considered the case presented one of atypical acne.

#### TUBERCULOSIS CUTIS. Presented by DR. WISE.

M. C., a girl aged 10, and born in this country, presented an extensive eruption on the legs, of four months' duration. The left leg below the knee presented numerous ulcers, varying in size from a 10-cent piece to several inches in diameter, disseminated from the knee down, both front and back. The floors of the ulcers were sluggish and indolent, with sharply defined and rolled borders. The right leg presented one dime-sized ulcer on the calf and numerous small scaly and papular spots, representing early lesions. The Wassermann test was negative. The history was negative with regard to the ingestion of medicines, such as bromids or iodids.

#### DISCUSSION

DR. LEVIN objected to calling the condition scrofuloderma, as had been suggested, for there was no evidence of the cutaneous lesions being connected with tuberculosis of the lymph nodes, or of the bone, or of the underlying deeper tissues. He regarded the condition as a pyoderma caused by pyogenic infection of the skin in an individual of poor general nutrition and resistance to infection.

DR. OULMAN thought it was a deep seated dermatitis.

DR. BECHET agreed with the diagnosis of tuberculous ulceration. He preferred to confine the term scrofuloderma to that form of cutaneous tuberculosis which was secondary to tuberculous changes beneath the skin, such as tuberculous glands.

DR. PAROUNAGIAN agreed with the diagnosis, but added that one must not disregard the possibility that it was a late syphilitic manifestation. The child's teeth were quite notched, and the ulceration was so extensive that it seemed to be more destructive than an ordinary tuberculosis of the skin. It might be well to treat the case for syphilis as a therapeutic test.

DR. GILMOUR suggested bandaging the limb from the toes to the knee in order to give the circulation support.

CASE FOR DIAGNOSIS (Lympho-granuloma (?) of the Tongue). Presented by DR. OULMAN.

The patient was a man, aged 33. Three years previously he was cut by a barber, and shortly afterward a swelling developed at the right side of his mouth. The lesion showed elevations and depressions, but never bled. Two years ago the lesion on the middle of the lip settled down, and a couple of months ago it spread to the left side. When the lesion progressed, it showed marked lymphatic stasis. As presented, it showed infiltration, hardening of the mucosa, and on the left side there was recently a granuloma, which was somewhat smaller than it had been. The swelling had also somewhat subsided under ultraviolet light treatment of the mucous membrane, but a certain amount of infiltration was still present. It seemed to be an infectious granuloma.

DISCUSSION

DR. GOTTHEIL asked if Dr. Oulman did not suspect malignancy.

DR. WISE said he thought the condition resembled tuberculosis.

DR. LEVIN said that it looked like tuberculosis because of the presence of ulcers with thin, undermined walls and small white spots suggesting miliary tubercles. The patient had also stated that he had intense pain, especially when eating, and that he had been losing weight and strength.

LUPUS VULGARIS DISSEMINATUS. Presented by DR. WISE.

The patient was a man aged 37, who presented a lesion at the outer edge of the eyelid, which had been removed with carbon dioxid snow. The second lesion appeared on the left thorax nine years ago, and the third lesion, on the right side of the thorax four years ago. The Wassermann test was negative; the urine was normal. There were no other symptoms, but a sister had died of tuberculosis pulmonalis.

DISCUSSION

DR. GOTTHEIL said that carbon dioxid destroyed the nodule, but the old fashioned method of carbolic acid cauterization would do perfectly well.

DR. G. H. FOX said that carbolic acid was a more convenient remedy and could be used after scraping deeply the margin of the patch. With a small curet or burr, and carbolic acid, one could cure lupus very quickly indeed. It quickly destroyed the diseased tissue, and left a smooth scar. He said the term "disseminatus" implied numerous small patches, while these patches were large and diffuse.

DR. BECHET said that in corroboration of Dr. Fox's remarks he would like to briefly relate his results from the use of the curet. He had recently used this method in a number of cases of epithelioma, in conjunction with acid nitrate of mercury. The interesting point lay in the fact that after the most severe curettage and cauterization, the resulting scars were soft and pliable, and in some instances scarcely discernible.

DR. FOX said that many physicians merely scarified the surface with the curet and failed to destroy all the morbid tissue. With the burr one could follow the disease as it dipped down along the course of the blood vessels better than with a curet, being guided wholly by the sense of touch.

DR. WALLHAUSER suggested that tuberculin be given a trial. He had recently treated several cases with tuberculin in which the result had been most gratifying.

DR. OULMAN said that where there was more light and more fresh air fewer cases were seen. The children in the public schools were better watched and taken care of.

DR. FOX said he was glad Dr. Wallhauser had brought up the subject of tuberculin treatment. It had a great vogue years ago. Many tried it, but

failed to cure the disease and abandoned the treatment. He knew of many cases in which it had failed to cure, but it did make a change in the diseased tissue so that curettage was more readily applied. It did some good, although it did not eradicate the disease. It should be used more at the present time.

DR. PAROUNAGIAN said that in five trips to Vermont he had seen more cases of lupus vulgaris than he had seen before in five years, yet Vermont had plenty of fresh air. At the Post-Graduate Hospital he had seen three or four cases at one time.

#### LUPUS VULGARIS. Presented by DR. WISE.

The patient, Mrs. G. N., aged 28, was born in the United States, married and had one child which was in good health. The skin disease began at the age of 7 and had progressed to the present stage. She had lost her voice in the last two months. Tuberculosis of the larynx and lungs had been diagnosed. There was a widespread, sharply circumscribed, crusted and atrophic patch, involving the entire nose, left side of face, left ear, part of right side of the cheek near the nose, and a spot just outside the right eyebrow. The edges of the lesions were raised and crusted, the interior were flat and atrophic. Typical apple-jelly nodules were to be seen.

#### DISCUSSION

DR. WEISS said that the case would probably lend itself to tuberculin treatment.

DR. FOX said that of all the extensive chronic cases we used to see the patients had died, and that the cases with smaller patches had been better treated and not allowed to spread.

#### PIGMENTED MOLES. Presented by DR. WISE.

The patient, a negress, aged 33, had come to Dr. Fordyce's clinic with symptoms of syphilis. She had a Wassermann reaction of + + + +, but there were no visible cutaneous lesions of syphilis. Attention was directed to the lesions on the face, which consisted of numerous small pigmented papules over the upper portion of the cheeks, resembling multiple cystic epithelioma or adenoma sebaceum. Both diagnoses were suggested in the clinic, but biopsy had revealed them to be ordinary pigmented moles. The patient stated they had been there since childhood. Dr. Gilmour had made the diagnosis of pigmented moles when the patient was previously shown.

#### LICHEN SIMPLEX CHRONICUS. Presented by DR. PAROUNAGIAN.

The patient was a woman, aged 37, born in Austria, and married. There were lesions on both legs—two on the tibial region of the left, and four or five patches on the right. The duration of the condition was eight years. The lesions were extremely itchy, violaceous in color, infiltrated, and slightly scaly. The speaker said that though many of these cases were not symmetrical, this one was.

#### DISCUSSION

DR. WEISS thought it was a case of chronic eczema.

DR. LEVIN said he could not agree with the diagnosis of Vidal's disease because of the absence of the typical lichenification, for it did not occur on the usual sites for neurodermitis; that is, the flexor surfaces of the elbows and knees, the groin, the axillary regions and the nape of the neck, and the absence of itching which was usually intense in this disease. It had the appearance of eczema, but there was too much and too deep an infiltration for that disease. A biopsy would be required to determine the diagnosis.



DR. OULMAN agreed with the diagnosis of chronic eczema.

DR. FOX said that lichen was essentially a papular disease, but there were no papules in the case presented. He thought that if it was treated as an eczema it would disappear.

DR. GILMOUR said that the patient had stated to him that she had scratched the lesions for years. In his opinion it was a chronic eczema.

DR. BECHET said that the scratching did not eliminate Vidal's disease, which was notably pruritic. It was his understanding that the term lichen chronicus simplex of Vidal was applied to circumscribed patches of thickened eczema, most frequently located in the groin or on the nape of the neck. He did not believe that this disease entity could be separated from eczema; it was really only a peculiar type of eczema, and for that reason he objected to the use of the name altogether.

DR. PAROUNAGIAN said he had been calling these cases chronic eczema until he became associated with Dr. Pollitzer at the New York Post-Graduate Hospital who called them with the name which was presented. When carefully examined the difference could be appreciated. The lesions were purplish or violaceous in color, smooth, with shining surface, leathery and hard in texture, extremely itchy, and no history of exudation or weeping were obtainable. Dr. Pollitzer advised occasional application of liquor potassae, to be followed with stimulating applications like tar, chrysarobin, etc., and in some cases roentgen-ray therapy. Some of these applications in ordinary forms of eczema would be very apt to cause a severe inflammation.

#### NEVUS UNIUS LATERIS. Presented by DR. LEVIN.

The patient, a man, aged 22, stated that the lesion on his forehead had been present since birth. It had gradually enlarged from the size of a small pea to the present size. At first flat, it had become elevated, and two years ago had become warty. He wished to have it removed because it would become painful from pressure of the hat, especially in warm weather.

The lesion was a grayish-brown, diamond-shaped, elevated growth on the right side of the forehead. It measured  $2\frac{1}{2}$  inches from above downward, and 1 inch in its widest part. It was distinctly verrucous in character, and in the central area there were several pedunculated papillary growths.

#### LICHEN PLANUS RESEMBLING SEBORRHEIC DERMATITIS. Presented by DR. BECHET.

A. T. F., aged 20, from the service of Dr. Trimble, stated that the eruption had been present for four months. It was most abundant on the middle of the back and chest. In these characteristic seborrheic locations, he presented for examination a large number of aggregated, scaly lesions; some of the scales seemed to be slightly greasy. On close inspection, however, most of the lesions presented the shiny surface and polygonal outline of typical lichen planus lesions. There were a few small discrete lesions on the arms and penis. The case was of interest because of its simulation of seborrheic dermatitis.

#### DISCUSSION

DR. FOX said that from the absence of lesions on the forearms and the back of the characteristic purplish color, he had thought at first that it was not lichen planus, but on closer examination he agreed with the diagnosis, lichen planus of the annular type.

#### MORPHEALIKE EPITHELIOMA. Presented by DR. LEVIN.

T. Z., a male adult, aged 62, a laborer by occupation, and a native of Germany, stated that the lesion on his forehead was first noticed as a round,

dime-sized spot ten years ago. It had extended slowly to its present size, and was accompanied by a slight itching. The patient presented a flat, nonelevated, yellowish-red lesion on the left side of his forehead. It measured 2 inches wide, 1 inch from above downward. The central portion looked yellowish-red and atrophic, while the border was broken and showed minute, pearly, turned-out elevations here and there. Just within the border was a fine, depressed, bright red line separating it from the inner portion. The clinical diagnosis of epithelioma was confirmed by biopsy. The microscopic examination of the tissue showed a normal rete layer in places, but for the most part there was a hyperplasia of the basal cells and a downgrowth into the corium. The Wassermann reaction was negative.

## DISCUSSION

DR. BECHET suggested carbon dioxid snow as a therapeutic measure in this particular case. It would seem probable that these flat, superficial, extremely slow growing epitheliomas would be particularly amenable to this form of destruction.

LEPRA TUBEROSA. Presented by DR. WISE.

The patient was a man, aged 24, single, born in Greece and had lived in this country for four years. The condition was said to be of four months' duration. The disease was of the nodular type, affecting chiefly the extremities and face. The forearms presented a multitude of papules and nodules, reddish and violaceous in color, varying in size from a pinhead to a large pea. There were several nodules on the right cheek, the eyebrows and ears showed slight thickening, and an inflammatory looking papule was present on the glans penis. Moderate anesthesia was present.

ACNE NECROTICA. Presented by DR. PAROUNAGIAN.

The patient, R. B., aged 26, was born in the United States. The skin condition on the scalp, side of the face and alae nasi began about a year ago as small pinhead-sized papules which became pustular. The patient picked them, and a number of depressed scars resulted. A few active necrotic lesions were present. The man stated that the lesions itched somewhat. He denied venereal history and presented no evidences of it.

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MANHATTAN DERMATOLOGICAL SOCIETY

*Regular Meeting, March 11, 1919*

PAUL E. BECHET, M.D., *Chairman*

PECULIAR WOOLLY HAIR. Presented by DR. GOTTHEIL.

The case was presented as an ethnological curiosity, the child being a boy between 2 and 3 years old, with extremely fine, thin, and absolutely curly hair, having the texture of fine thin wool. The parents were from Galicia, and the father stated that the mother's hair was similar. The child had been brought to the clinic for the relief of an urticaria. This condition of the hair was observed and the case presented because of its unusual character. It was not at all like negro hair, nor was there any suggestion of albinism.

## DISCUSSION

DR. ROSEN asked for a few epilated hairs in order to examine them.

DR. MACKEE said that it was an exceedingly rare condition.

## KERATODERMIA PALMARIS ET PLANTARIS. Presented by DR. MACKEE.

The patient was a girl, aged 10 or 12, and the case was presented because it had excited much interest at the clinic. She presented a prominent condition of keratoderma palmaris et plantaris, which did not begin until a few months ago. She also had very large adult nails. In addition there was hyperkeratosis of the elbows and knees, and she also had had an attack of eczema and a widespread keratosis pilaris. Every member of the family showed keratosis pilaris. The girl did not sweat, and this peculiarity also was shared by other members of the family. The erythema and the affection of the knees and elbows suggested the diagnosis of erythrodermia ichthyosiforme or mal de Meleda. The flexors were thickened in mal de Meleda and the palms perspired, and this condition did not fall very well under that heading; it simply suggested it. Could it not be accepted as a localized form of ichthyosis in a very broad sense?

## CASE FOR DIAGNOSIS. Presented by DR. WISE.

The patient, S. E., was a girl, aged 13, from Dr. Fordyce's clinic, and had for ten years suffered from the condition presented on the scalp. The back of the scalp presented a dollar-sized, pale, atrophic, scar-like lesion, devoid of hair, in some parts crusted and scaly, especially at the periphery. The disease resembled alopecia cicatrisata.

## DISCUSSION

DR. LEVIN considered it folliculitis decalvans—the type described by Quinquad.

DR. MACKEE disagreed with the suggestion of folliculitis decalvans. There were lesions scattered around, partly due to itching and partly spontaneous. Pseudo-pelade did not itch. Lupus erythematosus sometimes itched, but there were no signs of that.

## DERMATITIS VENENATA. Presented by DR. GOTTHEIL.

The patient, a boy, aged 11, had been seen only once. He had come to the clinic complaining of an eruption on the face—an inflammatory area on the face with vesicles in streaks, and a similar condition on the hands. The streaked nature of the lesions indicated their origin, the brushing of twigs from trees and shrubs. The boy had been in the woods on Saturday and Sunday. None of the poison plants were yet in bloom, but the sap was beginning to flow upward. There was also a papular eruption, more or less in streaks, on the arms, but this was not marked. The speaker said he had never seen a similar case so early in the season.

## BLASTOMYCOSIS. Presented by DR. OULMAN.

The patient was a man employed at the slaughter house in killing calves, and stated that the lesions started eight weeks ago. They were mostly on the right arm—some on the left—and were increasing in size and spreading. The lesions were more or less circular in shape, one of them being a little more infiltrated than the others, which were rather superficial. Examination of the pus showed blastomyces. In the more or less infiltrated lesions there were numerous miliary abscesses.

## DISCUSSION

DR. MACKEE agreed with the diagnosis, and suggested that Dr. Oulman treat the case with roentgen ray and nothing else, in order to ascertain how much influence that alone would have on the condition. Most of these cases



that had been reported in the literature had been treated with potassium iodid also, and it was not possible to determine the value of the roentgen ray alone without other medication.

DR. LEVIN told of a case which had improved immensely under cataphoresis and potassium iodid for two months. The condition recurred and was then treated in the service of Dr. Whitehouse at the Skin and Cancer Hospital with roentgenotherapy and was cured. This would tend to confirm the possibility of curing blastomycosis with the roentgen rays alone.

DR. WISE said he did not wish to question the diagnosis, especially as the organism was said to have been found. Unless the diagnosis was corroborated by culture or smears, he still hesitated to call the eruption blastomycosis. The lesions seemed to him to be those of an ordinary circumscribed pustular eczema, with the exception of one penny-sized, honey-combed spot near the wrist.

DR. OULMAN said that he had seen the patient the day before for the first time, but had made a smear and it showed blastomyces. The lesions were raised and showed the miliary small abscesses. Of course the case was only eight or ten weeks old and had not yet advanced to the stage generally seen. The patient had received potassium iodid for only twenty-four hours, and that could easily be discontinued and treated, as Dr. MacKee had suggested, with roentgen rays alone. The speaker said he himself had no doubt of the diagnosis, but would willingly report on cultures made later. He had had two patients who died from generalized blastomycosis; it was much easier to treat the localized condition.

#### OSTEOMYELITIS: Showing Résult of Treatment. Presented by DR. PAROUNAGIAN.

The patient had been presented last month with a diagnosis of syphilitic osteomyelitis of the lower end of the right femur, with a roentgenogram of the case. Since then she had received three doses of arsphenamin and three or four mercury injections, and the condition was much improved. She was now presented simply for observation. She received only three injections of the Metz arsphenamin; after the third she had such a severe reaction that it was discontinued.

#### DISCUSSION

DR. MACKEE said he thought the profession should give preference to the Philadelphia product, not only because it was better than any other preparation on the market, but for other reasons also. Had it not been for Dr. Schamberg's work we would not have had any arsphenamin for two or three years; but he took up the matter and produced it and offered it at a very low rate. As long as it was as good as any other, it ought to be used in preference.

#### LUPUS ERYTHEMATOSUS AND PSORIASIS. Presented by DR. PAROUNAGIAN.

The patient was a boy, aged 10, born in the United States. The lesions on the face had existed about three months and were erythematous in character, very slightly scaly, and the distribution was over the flush areas on both cheeks, extending over the bridge of the nose and giving the patch a butterfly appearance. The patient complained of no itching.

The lesions on the body were entirely confined to the extensor aspects of the elbows, and very slightly on the knees. No lesions on the scalp or any other portion of the body could be detected. The lesions on the elbows and knees were of slightly longer duration. As the case was seen for the first time in the afternoon at the Gouverneur Clinic, the speaker was unable to give any further information.



## DISCUSSION

DR. MacKEE thought it a borderline case with the diagnosis lying between psoriasis and seborrheic dermatitis. Sometimes it was difficult to tell the difference between the two.

DRS. ROSEN and WISE agreed with Dr. MacKee that the diagnosis lay between psoriasis and seborrheic dermatitis.

DR. LEVIN said that the possibility of a toxic erythema must be considered. The tonsils were acutely inflamed. The general condition of the patient should be determined, and a careful search made for evidence of rheumatic fever and cardiac disease.

DR. PAROUNAGIAN, in closing the discussion, said he appreciated the discussion though he was firmly inclined to the diagnosis of lupus erythematosus of the face lesions and psoriasis of the body lesions. The fine erythema, sharply outlined borders, the superficial character and butterfly shape, rather favored the diagnosis of lupus erythematosus. In cases of psoriasis where the face was involved, the duration was usually much longer, the body lesions were much more extensive, the lesions were more infiltrated, and usually characteristic psoriatic scales were present, and the scalp would not be free. The speaker agreed to treat the face for psoriasis and present the patient again shortly.

SCROFULODERMA. Presented by DR. BECHET.

N. G., aged 40, stated that twenty years previously she had a swollen gland on the left side of the neck; this after some years broke down, a thin serous fluid exuding through several openings. These sinuses had never closed during twenty years; now and then a discharge of serous pus occurred. She presented for examination several indolent, patulous sinus openings, covered with unhealthy granulation tissue. The affected area was not more than an inch in diameter. On firm pressure a few drops of pus could be expressed.

CASE FOR DIAGNOSIS. Presented by DR. BECHET.

M. M., an adult woman, aged 20, from Dr. Trimble's service at the University and Bellevue Clinic, stated that nine months previously she had noticed that a nodule had formed on the site of an old acne lesion. Other nodular and papular lesions soon made their appearance, and coalescing, formed the lesion for which she applied at the clinic for relief. At that time the lower third of the nose was covered with a verrucous-like patch, consisting of aggregated heaped-up nodules and papules, with some crusting, but little if any ulceration. "Apple jelly" points were not discernible. There were no cicatricial changes. The Wassermann reaction was negative.

## DISCUSSION

DR. ROSEN asked how Dr. Bechet proposed to treat the case. At Mount Sinai Hospital there was a young girl patient who gave a history of having cut her nose with a piece of tin. It was treated first by the family physician, who cauterized it, and after a few months a condition similar to this developed. It was apparently a typical lupus vulgaris. She received a few treatments with the high frequency spark, and it cleared up after a few months.

SCLERODERMA TREATED BY DESICCATED ANTERIOR LOBE OF THE PITUITARY BODY. Presented by DR. LEVIN.

Mrs. F. C., aged 38, noticed a blueness and numbness of the fingers of both hands twenty months ago. This was soon followed by stiffness and inability to flex the fingers, and five months ago the skin of the upper portion of the chest, back and neck became tight. For four months there had been difficulty

in moving the head and opening the mouth. Seven weeks ago she entered the Beth Israel Hospital, complaining of the skin condition and of acute pains in the right shoulder joint.

On admission, the patient, a poorly nourished, thin individual, showed a scleroderma of the face, neck, chest, back, forearms, hands and fingers. The fingers could not be closed to make a fist; there was difficulty in moving the head and opening the mouth. On the skin over the right shoulder joint there was a half-dollar sized erythematous round patch which was tender on pressure.

Anterior lobe of the pituitary body was administered, and at the end of two weeks the improvement was so marked that she was able to leave the hospital and continue the treatment in the dispensary. At present she is taking 20 grains of the gland a day.

The blood count showed the following: Red blood cells, 5,600,000; white blood cells, 16,400, and a differential white blood cell count of neutrophils, 70; transitional, 1; small lymphocytes, 22; large lymphocytes, 7. The Wassermann reaction was negative, and the urine was normal. The chemistry of the blood showed carbon dioxid, 62 per cent.; urea nitrogen, 18; nonprotein nitrogen, 25; creatinin, 1.8; sugar 0.09 per cent.

The roentgenograms of the right shoulder joint and the sella turcica were negative.

#### DISCUSSION

DR. WEISS spoke approvingly of endocrine treatment in scleroderma, and cited a case of a girl of 20, shown before this society before and after treatment with thyroid extract, resulting in an entire cure. In this case there was present a bandlike, raised strip of scleroderma, extending from the right side of the forehead diagonally over the eyebrow and scalp to the vertex. Dr. Levin's case improved greatly under anterior pituitary extract, and this circumstance emphasized again the well-known fact of a pluriglandular origin of diseases, with the preponderance possibly of one or the other gland. Three things must be considered in endocrine treatment: the anatomic, pathophysiologic and anthropologic constitution of the patient. It was especially the last one—the anthropological markings of the individual—the trade marks as it were, under which his body is consigned in this life's journey.

The speaker's patient exhibited thyroidal markings. She had a puffy, myxedematous face, showed the *seine de sourciller*, or eyebrow sign—want of hair in the outer third of her eyebrows; had brittle and thin hair, almost abolished sweat secretions; amenorrhea, cold hands and feet, morning tiredness, dry skin, etc. In this case of a thyreogonadal marking, the exhibition of thyroid extract—a dystrophy of the thyroid being the predominant symptom—had to bear curative fruits. Dr. Levin's case showed the adreno-pituitary markings: a rather dark complexion, heavy eyebrows, some pigmented moles, large stature, prominent facial bones, etc. In this case the speaker presumed a disbalance of the adrenals and consequent disturbance of the pressor effect of the pituitary. In administering to the patient the anterior lobe of the pituitary, a retardation of the myxedema-like growth of scleroderma and a better circulation in the skin was effected.

The knowledge of the interfunction of the endocrine glands, the response to treatment, physiologic chemistry and anthropologic analysis of the individual affected will lead to a better understanding of endocrinology.

DR. LEVIN, replying to a query from Dr. Gottheil as to why he had selected the anterior lobe of the pituitary gland for the treatment of the case, said that although scleroderma depended on a pluriglandular disturbance, past experience showed that the best results were obtained by administration of the pituitary gland. When first seen at the hospital, thyroid and pituitary were advised, but the patient developed a marked tachycardia after one day, and the thyroid was stopped. Adrenalin had also been used with good results in this disease. At Cornell, pituitary was being used because of the good results

obtained by the late Dr. Johnston in his cases. The patient was at present getting 20 grains of the desiccated anterior lobe without any ill effects, and the erythematous patch on the right shoulder had disappeared.

Necropsies had shown that changes in the structure of the thyroid and pituitary glands occurred in cases of scleroderma. Microscopic changes in these glands had been found which were similar to those in the skin.

DR. BECHET said that in connection with this case it might be of interest to briefly mention an extensive case of scleroderma circumscriptum which came under his observation some years previously. The patches of scleroderma were situated on the abdomen, and measured more than 10 inches in diameter. The routine treatment was without result. The disease had been present for ten years. After the administration of pituitary extract, extending over some months, the lesions entirely disappeared.

DR. WISE inquired as to the complexion of the patient.

DR. BECHET replied that she was of a decided brunette type and very obese.

DR. OULMAN cited the case of a 4-year-old boy who did well under the administration of thyroid extract, and was getting it continually. He said that he was very glad to know more about this pituitary extract treatment for the condition, as he had several cases of scleroderma and sclerodactylia which had not improved under the treatment that had been given to them.

#### VON RECKLINGHAUSEN'S DISEASE. Presented by DR. LEVIN.

The patient, F. R., aged 20, single, was a native of the United States. Her mother noticed, when she was 1 year old, that the right side of her face seemed to grow more than the left, and that it was becoming pigmented. This gradually became more marked and involved the right side of the neck. Operations were performed eight, four and two years ago to remove the excessive pendulous growths. Freckles appeared on the trunk when she was 4 years old and were always increasing in number. An orange-sized, painful tumor was removed from the right side of the scalp twelve years ago; another painful tumor of the back was removed four years ago.

The patient complained of acute tenderness when pressure was made on the pigmented growth of the neck, and pain in the lower vertebral region. There was also pain in the extremities during damp and changing weather.

The family history was negative and the past history was negative except for an attack of measles in childhood.

Covering the right half of the neck from the midline in front to the border of the trapezius there was a dark brown, elevated growth which was covered with pinhead-sized to pea-sized pedunculated and nonpedunculated, soft, tender, warty papules. This nevus growth extended up to the cheek and down over the clavicular region. On the upper posterior portion there was an egg-sized fold of skin which was very tender to pressure. Along the lower maxilla there was a horizontal scar from the old operations for removal of the pendulous skin. In front there was an orange-sized fold of soft pendulous skin which was pigmented and connected with the nevus. Scattered over the trunk there were innumerable pin-point to quarter-dollar sized brownish macules. There was a large sized soft fibroma in the midpoint of the chest, which seemed to grow through a perforation in the skin. In the right parietal region of the scalp there was a 3-inch, round flat scar. There was also a lineal scar in the dorsal region over the spine where a painful tumor had been removed.

#### DISCUSSION

DR. MACKEE said that he did not know that von Recklinghausen's disease could exist without nodules and tumors, although Dr. Wise said that such was a fact. It was usually considered necessary to have neuromas or fibromas to make the symptom complex complete. Assuming, however, that this presumption



was correct, he would be inclined to consider this condition a widespread nevus.

DR. ROSEN thought the condition was a large nevus, with pigmentation over the body. He had yet to see a case of von Recklinghausen's disease that did not show at least a dozen or more tumors over the body. This case had the characteristic ear marks of a large nevus.

DR. WISE said one could make the diagnosis of von Recklinghausen's disease on the *café au lait* spots alone. The patient, however, had a distinct flabby tumor on the chest, very characteristic of the condition, for it yielded under the finger and felt like a bag full of water. The nevoid area on the neck was one of the symptoms of von Recklinghausen's disease. He corroborated the diagnosis as presented.

DR. OULMAN agreed with Dr. Wise, and expressed the opinion that if some of the lesions on the face were examined by a biopsy they would show the fibromatosis of the nerve sheaths.

DR. WALLHAUSER also agreed with Dr. MacKee. If considered alone, in the absence of a biopsy, he would be inclined to call it a nevus.

DR. GOTTHEIL agreed with Dr. MacKee that the case presented the characteristics of a large nevus.

DR. LEVIN said that he had seen the patient but once, three days before her presentation before the society. A diagnosis of von Recklinghausen's disease would have been made if no lesion, but the loose, hanging skin of the cheek and chin alone were present. While he was on service at the Mount Sinai Hospital as an intern, he had seen a case with a similar lesion in which von Recklinghausen's disease was the diagnosis. It was a mistake to use the terms fibroma molluscum and neurofibroma as synonyms of von Recklinghausen's disease. That condition represented a definite symptom complex and was probably congenital in origin. Not only did one find fibromas and neurofibromas which were tender and painful, but associated with these were found nevi, areas of pigmentation and congenital anomalies.

This patient showed the presence of fibromas, a nevus, and areas of pigmentation. The condition was noticed in infancy, and there was a history of the removal of very tender and painful growths, probably neurofibromas; besides, there were present areas which were tender to pressure. The whole picture was that of von Recklinghausen's disease. The speaker expressed the opinion that this condition bore some etiologic relationship to disturbances of the glands of internal secretion.

DR. WEISS said that considering the generalized condition presented, it would seem that some disability of the adrenal glands must exist, and in consequence he would advise treatment by mouth with suprarenalin, whole gland.

DR. LEVIN said that a study was to be made of the internal secretions and the metabolism of the patient, and he would report on the case later.

#### LUPUS VULGARIS IN UNUSUAL LOCATION. Presented by DR. WISE.

The patient, Miss C. B., aged 34, was seen at Dr. Fordyce's clinic. The trouble began at the age of 10, and she had suffered from it ever since. The lesion consisted of the characteristic doughy and somewhat infiltrated type of lupus vulgaris, with "apple-jelly" nodules plainly visible at its periphery. It affected the nose and adjacent surfaces of the cheeks, and at a distance it closely simulated lupus erythematosus.

#### BROMODERMA. Presented by DR. WISE.

The patient, Mrs. W. S. R., aged 32, had never been pregnant and had never menstruated. For the past seven years she had had attacks of epilepsy, and had recently been taking a salty medicine, presumably a potassium salt. She



had a lesion on the right leg, which had persisted for six months. It was presented as a case of isolated bromoderma on the anterior surface of the right leg, was about the size of a man's palm, circular, with a somewhat roughened and crusted surface. Surrounding the patch was an area of dermatitis due to local applications.

CASE FOR DIAGNOSIS. Presented by DR. GOTTHEIL.

The patient stated that she was the mother of eleven children and had never had any other trouble than the one presented. She had had large reddened and thickened patches on both sides of the face, extending behind the ears, for about a year, the condition being sometimes better and sometimes worse. She stated that she had been in the habit of applying all sorts of remedies, and on the morning of the day when she came under observation she had used a strong carbolic solution. There was also a slight tendency to scar tissue. The speaker said that of course the idea of lupus erythematosus suggested itself immediately, though it did not present the localization, nor the margin, nor the scaling of lupus erythematosus. The speaker said that he still inclined to that diagnosis, although he was willing to accept a better one.

DISCUSSION

DR. WISE said that the diagnosis would have to be made by exclusion.

DR. ROSEN thought the condition was a dermatitis. There was no atrophy and no follicular involvement. The scaling was that of a healing of a chronic process; also there was more or less of an inflammatory condition not seen in lupus erythematosus. The patient had admittedly been using all kinds of irritating applications, resulting in a chronic dermatitis.

DR. WISE disagreed with Dr. Rosen, and said that one did not have to have scaliness, or atrophy, or telangiectasis to arrive at a diagnosis of lupus erythematosus. There were many atypical eruptions of the disease, without these characteristic diagnostic signs.

DR. GOTTHEIL said he was inclined to agree with Dr. Rosen. One could understand how any cutaneous irritation or repeated irritation would cause such a lesion. All had seen such patients. If the condition was due to irritation alone, it was a very unusual result. It would be well to leave the diagnosis in doubt until the patient had been longer observed.

DR. ROSEN said that while it was not necessary to have the characteristic earmarks of lupus erythematosus, yet in this particular case with such an extensive lesion it was not in the location one would expect in lupus erythematosus. That was symmetrical over the nose, but this case was symmetrical on both sides of the face and around the ears, which was not characteristic of lupus erythematosus.

DR. BECHET said that the absolute symmetry of the lesion was against the diagnosis of lupus erythematosus. The lesion covered both cheeks, its diameter being exactly similar on both sides; the eruption was very extensive, and if it was lupus erythematosus, there would be outlying patches, particularly the "butterfly" lesion on the nose. The speaker had not observed any great amount of scaling, atrophy, and patulous follicles. There was a history of the repeated application of carbolic acid. In view of this fact and the appearance of the lesion a diagnosis of dermatitis venenata would be more likely to occur to him.

DR. LEVIN said that he favored the diagnosis of lupus erythematosus. The outline of the lesion was too well defined for dermatitis.

RUPIA. Presented by DR. GILMOUR.

The patient, M. R., aged 24, and married, presented an eruption on the left knee consisting at first of pinhead lesions which gradually spread and

crusted. The Wassermann reaction was four plus. The condition had existed for a year.

## DISCUSSION

DR. PAROUNAGIAN suggested that the patient be given antisyphilitic treatment without making any local applications, and be again presented.

## EPITHELIOMA OF THE EAR. Presented by DR. PAROUNAGIAN.

The patient was a man, aged 36, born in the United States and a book-binder by occupation. He stated that some years ago he had a wartlike growth on the concha of his left ear which he was in the habit of picking. About one and a half years ago it began to grow and bleed readily; recently he noticed the growth more and applied for treatment. The lesion was located on the upper portion of the concha, was about the size of a dime, warty in appearance and pedunculated. It was mushroom-like, and not painful.

## DISCUSSION

DR. WISE thought it was a granuloma pyogenicum, but said he always feared to irritate this type of lesion, as some of them, in his experience, proved to be sarcomas.

DR. GOTTHEIL did not see any of the characteristic earmarks of epithelioma. One would have to get at the base of the lesion and note its character.

DR. MACKEE thought that the possibility of its being granuloma pyogenicum, as suggested by Dr. Wise, should be carefully considered, but these cases often turned out to be sarcoma. As he understood it, the lesion began as a wart, which was there for two or three years. This would naturally rule out granuloma pyogenicum. He would, however, be afraid to call it anything but a malignant growth until it was definitely proved otherwise. It would seem best to dig it out and examine it with a microscope.

Replying to an inquiry from Dr. Parounagian as to the advisability of roentgen ray or radium treatment, Dr. MacKee said that if the growth proved to be malignant the best treatment would be surgical excision followed by radium.

## FOLLICULAR LUPUS ERYTHEMATOSUS. Presented by DR. GOTTHEIL.

Dr. Gottheil said that probably some of the men had seen the patient before as he had been the round of many clinics. The condition had existed for a year and a half. There was nothing on the body, only on the face, nose and forehead. The entire face was infiltrated and covered with gray scales. Various diagnoses had been made, but in his opinion it was lupus erythematosus. Lupus vulgaris had been suggested, but there were no "apple-jelly" nodules or other characteristics of that condition. Lichen planus also had been suggested, but neither did that seem justified. The biopsy was characteristic of lupus erythematosus, but he had never before seen a lupus erythematosus spreading in such a manner. The diagnosis was generally accepted.

## SYPHILITIC ONYCHIA. Presented by DR. LEVIN.

L. L., a man, aged 22, a native of the United States and a laborer by occupation, had a chancre of the penis and lesions of the secondary stage of syphilis two years ago. The Wassermann reaction of the blood which was ++ became negative after two intravenous injections of arsphenamin and twelve intramuscular injections of mercury, and was negative after a second similar course of treatment. One year ago the blood showed a Wassermann reaction that was +++, and the patient received sixteen injections of mercury; the Wassermann reaction was then + and reported negative on two occasions two months ago.

The condition of the nails of his fingers and toes was first noticed six months ago; the destruction of the nails increasing gradually. Examination showed that two-thirds of the distal portion of all the nails were missing. The free border of each nail was irregular, brittle, fissured, and greenish-yellow in color. The rest of the nail was dry, brittle, ridged and grooved, discolored, and more convex than normal.

While he had been under observation, small pustules appeared under the distal portion of the nails, which were followed in two days by further destruction of the nail.

#### DISCUSSION

DR. GOTTHEIL said he could not accept the diagnosis. In his opinion, syphilitic onychia meant the presence of syphilitic infiltrations or nodules in the nail bed and around the nails. In this instance there was no active inflammation. In spite of the fact that no parasite had been found, he was inclined to favor a clinical diagnosis of parasitic disease of the nails. Not only that, but onychia syphilitica of all ten fingers would be very unusual. It was usually confined to one or two fingers or toes.

DR. WISE agreed with Dr. Gottheil, and told of a case of syphilitic onychia in a negress seen two weeks ago at the Vanderbilt Clinic, in which the skin was inflamed and suppurating. Only two fingers on each hand were affected; the nails showed very little change. There was very little real inflammation in the case presented; it suggested true ringworm of the nails, with the striations and the crumbling appearance.

DR. LEVIN said that he had presented the case as one of syphilitic onychia, not paronychia. He then explained the differentiation, and finally gave his reasons for believing the condition a case of syphilitic onychia rather than a parasitic infection.

DR. ROSEN said the picture was not that of a syphilitic condition. Every case of onychia showed a distinct inflammatory condition of the nail matrix; they were usually very much hypertrophied, the skin was inflamed, and they were very painful. The nail condition of syphilitic onychia was usually very painful. A point against syphilis in this case was that the nails were very rarely short, as in this case. A new nail was formed under the old nail, which came off. The disease appeared to be a parasitic condition.

DR. MACKEE agreed with Dr. Rosen substantially. If by syphilitic onychia one meant spirochetes acting directly on the nails, we had a very active process, acute or subacute, not essentially chronic in its manifestation. If this case was due to syphilis, it would be more likely to show dystrophy of the nails rather than a more active process—a dystrophy resulting from endarteritis or some other process. He was inclined to think that syphilitic onychia would be ruled out by making a culture, not by scrapings.

DR. LEVIN promised to have a culture made from the nails, and to give the patient antisyphilitic treatment.

MELANO-CARCINOMA. Presented by DR. LEVIN.

The patient was a man, aged 45, a cap maker by occupation, and a native of Italy. He stated that three months ago he had an attack of pruritus of the genito-crural region which caused him to scratch the penis and produce an excoriation of the glans. On the morning of the sixth day of this attack he found a small, round, red swelling of the glans. He consulted Dr. A. Wolbarst that day, who found a small, cherry-sized, shiny, bright red tumor on the dorsal surface of the glans penis. The growth looked as if it had forced its way to the surface from the interior of the glans and had a narrow, constricted base. After two weeks the patient returned for observation. The growth had enlarged slightly, the surface had become covered with a thin layer of epithelium, and the base had spread and was not pedunculated.



When first observed by the speaker there were two lesions on the dorsal surface of the glans penis. The larger was an irregular, hemispherical, purplish red tumor measuring 1 inch in diameter and elevated one-half inch. Its distal edge touched the meatus of the urethra. It was smooth, shiny, soft and lobulated, and covered with a thin covering of epithelium. The base was somewhat constricted. One inch proximal to the large lesion there was a small pea-sized light brown spot which was slightly elevated.

During the past three weeks the main lesion had grown about one-eighth inch in diameter. It was flatter, less lobulated, more purplish-red in color, and the base had broadened. The smaller lesion had also grown larger and darker brown, and had become more elevated.

Scattered over the general cutaneous surface, there were numerous pinhead to large pea-sized light and dark brown macules, resembling freckles. These were most numerous on the buttocks and face. On the face and back of the left shoulder there were pigmented elevated moles, and on the left buttock there was a pigmented, hairy mole. There was no inguinal adenopathy. Biopsy revealed a pigmented nevus.

#### DISCUSSION

DR. GOTTHEIL said that if any operation was done it should be radical.

DR. MACKEE favored intensive roentgen ray or radium treatment if it proved to be inoperable, and said it was a very malignant process. The roentgen ray was very successful in some cases, but was very uncertain. He favored a radical operation followed by roentgen-ray treatment; but if the patient refused operation, roentgen ray or radium treatment might well be tried. Nothing simple like excision should be done, but something very radical. If the roentgen-ray treatment were tried, it should be very intensive; if surgical, it must be radical.

#### KELOIDS FOLLOWING ACNE. Presented by DR. LEVIN.

I. B., a schoolboy, aged 15, had acne vulgaris for one year. On his face there were comedones, papules and pustules. His back and chest showed the presence of a few comedones; about three dozen pinhead to bean-sized nodules which were hard and yellowish-white in color; numerous keloids and depressed smooth and elevated puckered scars. No treatment had been applied to the back and chest. The keloids and scars seemed to have developed from the miliumlike bodies.

#### DERMATITIS EXFOLIATIVA FOLLOWING PSORIASIS. Presented by DR. PAROUNAGIAN.

The patient was a man, aged 68, an Italian by birth. He stated that about twenty years ago, he had some skin affection which involved the scalp, elbows and knees, was scaly, etc., which was probably psoriasis. In four or five months it disappeared entirely and he remained free until four years ago. Since then he has never been free from the skin affection.

The entire integument was involved, the skin infiltrated and showing thick scaly patches, and erythema was marked with extensive exfoliation accompanied with intense itching. The patient had been seen the morning of the presentation for the first time, and no treatment had been given prior to the presentation. The interesting feature of the case was that although he had had psoriasis twenty years previously, the patient claimed that he had no skin lesions during all that period until the present outbreak took place four years ago. Therefore it was difficult to decide whether this would be considered a primary dermatitis exfoliativa or complicating psoriasis.

#### DISCUSSION

DR. WISE asked what treatment had been given, and Dr. Parounagian said that he had given the patient only a mild ointment.



## EPITHELIOMATOUS DEGENERATION OVER A GUMMA. Presented by DR. OULMAN.

The patient was a married man and had three healthy children. He stated that twenty years ago he had a chancre. Since last year he noticed a tumor on the left side of the tongue, near the base. This was very much raised and was treated by fulguration. The lesion was evidently a gumma, but there seemed to be an epitheliomatous degeneration superimposed. The Wassermann reaction was + + + +. The patient had received mercury and arsphenamin. After that he had an attack of grippe, and the treatment was interrupted. After his recovery from the grippe he still had a Wassermann reaction that was + + + +, and he had three more treatments.

## DISCUSSION

DR. GOTTHEIL said that the man had been getting arsenic again and had improved under it, but now presented a cancer. He was afraid of giving arsenic in these tongue cases.

## EPITHELIOMA OF THE LIP. Presented by DR. OULMAN.

The patient was a man, aged 74. Eight years ago he developed a lesion on the lower lip which was diagnosed as an epithelioma, excised, and afterward treated with some paste. Four months ago he came to Dr. Oulman's clinic and showed a new lesion on the lower lip of about 2 inches in length. It was at first touched with mercury pernitrate and afterward received roentgen-ray treatment. The lesion seemed to be cured under daylight inspection, but under examination of the ultraviolet rays one might see two tiny pearly points of infiltration. The speaker called attention to the different aspect of a number of skin lesions, especially of the mucous membrane, under these rays.

DR. OULMAN reported on a case of Kaposi's sarcoma previously shown. The patient had a pigmented sarcomatosis with lymphatic swellings, and died last week of a general metastasis.

DR. WISE reported on the case of a negro woman with nodules on the upper lip, nostrils, back, and between the shoulder blades, shown at a previous meeting. Under the microscope the case proved to be disseminated lupus.

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## Original Communications

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### THE QUESTION OF EPIDERMOPHYTON INFECTION

A PROBLEM IN DERMATOLOGICAL DIAGNOSIS, BASED ON THE STUDY OF  
ONE HUNDRED AND NINETY-TWO PRIVATE CASES \*

CHARLES J. WHITE, M.D.

Edward Wigglesworth Professor of Dermatology in Harvard University  
CAMBRIDGE, MASS.

This paper will probably record some new as well as old facts, but is presented chiefly for the purpose of emphasizing the importance of the whole question of infection with epidermophyton or its kindred organisms. The problem has interested me more and more as recent years have passed, directly proportionately with my increasing experience and knowledge of the disease.

When Dr. Ormsby and Dr. Mitchell read their excellent paper on this subject before the Dermatological Section of the American Medical Association in June, 1916, Dr. Pusey remarked in the subsequent discussion that "the disease was undoubtedly very common and equally undoubtedly seldom recognized." Since that date, now three years ago, few papers on this question have been published. Since that date at least seven American authors have given us excellent treatises on dermatology in the form of first or later editions, but despite the fact that practically all mention the subject in a fairly complete way, it would seem that perhaps one half of these authors write from hearsay rather than from first-hand knowledge of the disease. As to the general run of medical practitioners, it would appear that they, at least in New England, were ignorant of the very existence of the condition.

The present paper is based on the study of personal records dating back to 1910, and it is interesting to note the almost consistent yearly increase in the recorded number of cases.

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\* Read before the Forty-Second Annual Meeting of the American Dermatological Association, held at Atlantic City, June 16-18, 1919.

Such a rapid increase in the recorded incidence of infectious disease is capable of at least three interpretations: first, that the infection is becoming rapidly widespread; second, that the physician's clientèle has rapidly grown, and third, that the observer's diagnostic powers have measurably increased. Personally, I feel inclined to interpret these findings almost wholly in the light of the third group of possibilities and I am free to confess that my present keenness toward epidermophyton infections dates back only to the middle of last summer.

TABLE 1.—YEARLY INCREASE IN CASES

	Cases
1910.....	3
1911.....	5
1912.....	11
1913.....	14
1914.....	20
1915.....	17
1916.....	21
1917.....	25
1918.....	31
Up to May 12, 1919.....	45
	<hr/> 192

TABLE 2.—DISTRIBUTION

	Cases
On the thighs and adjacent regions alone.....	63
On the feet alone.....	33
On the feet and hands alone.....	22
On the hands alone.....	21
On the thighs and in the axillae alone.....	17
In the axillae alone.....	11
On the thighs and feet alone.....	5
On the thighs and hands alone.....	3
In the axillae and bend of the elbow alone.....	3
In the axillae and on the thighs and hand alone.....	2
On the hands, feet and legs alone.....	2
On the feet, hands, legs and arms alone.....	1
Over the head of the humerus alone.....	1
On the thighs and in the axillae and on the feet alone.....	1
On the thighs and in the axillae and on the chest and shoulders.....	1
On the chest alone.....	1
On the thigh and in the bend of the knee alone.....	1
On the thighs, in the bend of the knees and on the palms.....	1
On the thighs and scalp alone.....	1
On the feet and ankles alone.....	1
On the feet and thighs, in the axillae and under the breasts.....	1
On the feet, on the thighs and around the arms.....	1

According to my observations, the epidermophyton is capable of infecting singly the thighs and adjacent skin, the toes and feet, the fingers and hands, the axillae, the bends of the elbows and of the knees, the flat surfaces of the trunk and extremities and the scalp, or conjointly any combination of the above regions. It is my intention, therefore, in what follows, to describe seriatim the disease as I have observed it in each of these various regions, preceding the descriptions with various statistics gleaned from the study of my case records.

Patent discrepancies in these figures are easily explained by the fact that one individual may have the disease in one situation or in several, and again by the fact that my histories are not always complete in every respect.

TABLE 3.—THE DISEASE ON THE THIGHS AND ON THE ADJACENT SKIN

Age of Incidence	Sex	
	Males	Females
	No. Cases	No. Cases
First decade.....	0	1 (15 months)
Second decade.....	17	1
Third decade.....	17	6
Fourth decade.....	16	2
Fifth decade.....	14	5
Sixth decade.....	7	3
Seventh decade.....	2	0
Eighth decade.....	1	0
Total .....	74	18

DURATION		
Days :	No. Cases	No. Cases
One day.....	1	Five months..... 2
Two days.....	1	Six months..... 2
Three days.....	1	Seven months..... 1
Weeks :		Eight months..... 2
One week.....	6	Ten months..... 1
Two weeks.....	10	Years :
Three weeks.....	5	One year..... 1
Five weeks.....	1	Two years..... 5
Six weeks.....	2	Three years..... 4
Seven weeks.....	2	Four years..... 2
Months :		Five years..... 1
One month.....	8	Ten years..... 1
Two months.....	7	Twelve years..... 2
Three months.....	5	Sixteen years..... 1
Four months.....	5	Eighteen years..... 1

SEAT		
	No. Cases	No. Cases
Both thighs.....	48	Anus ..... 6
Left thigh.....	21	Labia ..... 5
Right thigh.....	3	Between buttocks..... 2
Perineum .....	12	Abdomen ..... 1
Scrotum .....	11	Umbilicus ..... 1
Penis .....	7	

OCCUPATION		
	No. Cases	No. Cases
Students .....	25	Teachers ..... 5
Clerical .....	11	Traveling men..... 4
Doctors .....	5	Dress factories..... 3
Lawyers .....	5	

and a long list of other activities represented each by one individual.

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## CLINICAL APPEARANCES

*The Thighs.*—Here the picture is usually a very familiar one and consists of a slightly elevated, sharply bounded, distally rounded, red or brown-red, delicately and generally homogeneously scaling area with little if any accentuation of the periphery in the untreated cases. Depending on its age and various other propitious or hostile conditions this area varies in size from almost nothing to great sheets of affected skin stretching from the crotch almost to the knee. Occasionally we meet with satellite infections seated on the thighs beyond the main plaques. The original infection may be single or it may be multiple and then we encounter the various geometrical configurations associated with centrifugally extending dermatoses. Recollection would have prompted me to say that this disease was usually unilateral, but my statistics demonstrate quite the reverse; in fact, 66 per cent. of my patients were attacked on both thighs. When the infection happens to be on one side only the left thigh is the usual seat of the process—in my series in 86 per cent.—and this predilection is presumably explained in men by the usual contiguity of the scrotum, owing to the prevailing custom of “dressing on the left side.” A moment’s thought would have led me to say that this disease was rare in women, but my figures reveal a proportionate infection of slightly over two women to nine men. Habit causes us to speak of the seat of this infection as the groins; in fact, the infectious agent has been dubbed by Sabouraud the epidermophyton inguinale, whereas in truth in my experience the eruption seldom even approaches Poupart’s ligament. We should properly allude to this type of the infection as of the thighs.

When left to itself the plant seems capable of various evolutions. In men it usually spreads homogeneously downward to the lower level of the scrotum in relaxation. It may continue its course down the thigh, as mentioned above, almost to the knee; it may affect the scrotum, the penis, the labia, the perineum, the anus, the intergluteal fold, and there may be accidental transference to the pubes, the abdomen and the umbilicus. If untreated and unscratched the central portion of the plaque may clear up, leaving only a somewhat broad, ringed periphery, or it may break up into maculo-papules, as in certain cases of psoriasis, or the condition may come to an almost indefinite standstill—witness my example of eighteen years’ duration.

If the infection occurs in highstrung or supersensitive or allergic individuals, or perhaps if the plant is peculiarly virulent, or if an overstimulating treatment has been employed, we may encounter various anomalies in the way of moisture, superredness, white vesicopustulation or varying degrees of infiltration, papulation, lichenification, and pigmentation. In at least three instances where the itching has

been almost intolerable I have noted deep, brawny purple or dark-brown thickening of the skin with superficial, large, lichenoid papulation, veritable examples of lichen circumscriptus. Several times I have observed the finer type of pure lichenification of the skin indistinguishable, so far as it went, from classical lichen planus. At times I have seen a reddened, nutmeg-grater-like surface reminiscent of lichen ruber acuminatus.

*Perineum.*—When the infection spreads to this portion of the body we find always a thickening of the skin with superficial roughness and a color response varying from white to brown to red.

*Scrotum.*—When this surface is attacked the skin usually becomes brilliant red and glazed and the rugae are generally obliterated or more rarely hypertrophied.

*Penis.*—Infection of this organ is followed by marked redness,, slight infiltration, rare scaling and frequent moisture but a surprisingly slight edema, and if unaccompanied by involvement of other and more familiar sites it would be practically impossible clinically to make a correct diagnosis of this specific inflammation so much does it resemble that produced by many other irritants.

*Pubes.*—Here the eruption is apt to appear in multiple foci, objectively similar to the lesions on the thighs and with a peculiar lack of involvement of the local hairs—a phenomenon recorded by many previous writers. One must be careful not to call this condition eczema seborrheicum.

*Anus and Intergluteal Fold.*—The clinical appearances are almost identical in these neighboring tissues and consist of redness, moisture and at times a decided maceration which results in a lusterless, dirty-white center and a narrow, angry, red, moist periphery. In such a circumstance differential diagnosis is most difficult and we must rely on the probable extension of the process from the thighs or on the doubtful aid of the microscope or culture media.

*Labia.*—The results of epidermophyton infection here are unusual. The most marked feature is the intense itching, which is really cruel. The skin remains dry, dull red, perceptibly thickened and possibly furfuraceously scaling, but nothing more. One cannot appreciate any such appearances as usually exist on the contiguous thighs. The plant probably runs over onto the mucous surfaces.

*Umbilicus.*—Infection here results in a rather moist, red, somewhat thickened skin devoid of all semblance of scaling.

*Abdomen.*—Areas of infection on the abdomen may have all the characteristics of similar infections on any part of the flat surfaces, and therefore will be described under a later heading.

In reading over these descriptions of epidermophyton infection of what might be termed the adnexa of the upper thighs one must be struck by the many local divergences of these objective peculiarities—all differing more or less from one another and all curiously unlike the usual original focus on the thighs. If, therefore, these observations have been correct and are to be accepted as such the result must be that in future physicians must not make so many diagnoses of “eczema” and “pruritus” when confronted with certain inflammations of these parts.

TABLE 4.—THE DISEASE ON THE FEET

Age of Incidence	Sex	
	Males	Females
	No. Cases	No. Cases
First decade.....	0	1
Second decade.....	3	2
Third decade.....	16	5
Fourth decade.....	13	5
Fifth decade.....	11	3
Sixth decade.....	4	2
Seventh decade .....	1	1
Ninth decade.....	1	0
Total .....	49	19

DURATION			
Weeks:	No. Cases	Years:	No. Cases
Two weeks.....	4	One year.....	6
Three weeks.....	2	Two years.....	6
Four weeks.....	1	Three years.....	4
Months:		Four years.....	2
One month.....	1	Five years.....	2
Three months.....	4	Eight years.....	2
Four months.....	3	Nine years.....	2
Five months.....	1	Ten years.....	2
Six months.....	4	Twelve years.....	1
Seven months.....	2	Fourteen years.....	1
Eight months.....	2	Sixteen years.....	1
Nine months.....	2	Eighteen years.....	1

SEAT			
No. Cases		No. Cases	
Toes or interspaces.....	57	Dorsum of foot.....	12
Sole or arch.....	41		

OCCUPATION			
No. Cases		No. Cases	
Students .....	11	Machinists .....	4
Clerical work.....	7	Housework .....	4
Doctors .....	5	Cotton mill.....	3
Teachers .....	5	Clergymen .....	3

CHARACTERISTICS			
No. Cases		No. Cases	
Deep vesicles.....	22	Recurrences .....	9
Soddenness between toes.....	15	Other members of family infected	5
Hyperidrosis .....	12	Yellow calluses.....	4

and several other activities each represented by one individual.

## CLINICAL APPEARANCES

In describing the objective symptoms of epidermophyton infection of the feet it seems proper to deal with the toes and the other parts of the foot separately.

*Toes.*—As the disease presents itself on or between the toes, we find varying manifestations. The primary lesion on the toes is undoubtedly a vesicle—a symptom which has led us in the past to call the condition dyshidrosis. Hyperhidrosis is apt to be induced by or at least to accompany the infection, and as the horny layer, especially on the lateral aspect of the toes, is decidedly thin, we soon find a marked and frequently total exfoliation with an underlying and exposed red surface, which, with the ensuing declining activity of the plant, is apt to become glazed. In such instances short lateral fissures may also develop on the flexor surface of the joints. There are many less acute examples where vesiculation and increased sweating are not produced and here we find a reddened lateral surface and a lamellated exfoliation. On the interdigital floors and principally between the fourth and fifth toes we find this exfoliation much increased in thickness, and, in the moist cases, a perhaps pathognomonic condition of white soddenness or more rarely a curious wrinkling of the exfoliated tissue. This white, sodden structure at times may be so thick and homogeneous that it can well be likened to lard. This cake can be detached readily from its base, leaving a mildly inflamed, not particularly moist, underlying red foundation.

*Feet.*—From such a digital or interdigital infection the plant may travel backward and affect the foot by direct extension. Such a contingency is apt to be noted far oftener on the plantar than on the dorsal surface, but in either case the result is apt to represent the dry rather than the moist type of the disease, and we find a possibly thickened, always reddened, exfoliating skin with a frequently decidedly serpiginous border.

A second type of infection of the foot is the deep vesicular which may occur on any part, but is most frequently observed on the arch just at the middle of the upward curve of the instep. These vesicles form a relatively large group and being deep in the skin under a fairly thick stratum corneum they are seldom absorbed and require time to break, and thus they are apt to become pustular. Eventually the pustules reach the surface and are broken. Generalized local redness results, followed by exfoliation which at the periphery is apt to assume a multiple serpiginous outline. One might well ask how to differentiate such a picture from that of dermatitis infectiosa eczematoides. My only answer would be that if there is such a disease our only methods of differentiation would lie in the microscope and the culture medium.



At times this rupturing of individual vesicles may result in a surrounding collarette of scales or in deep, punched-out holes, giving the affected area a decidedly cribriform appearance.

A third form of infection is that which results in one or more thick, yellow calluses usually on the ball of the foot. Here we find the neighboring digital or interdigital involvement, although theoretically such a double infection may not be obligatory. There is nothing peculiarly pathognomonic about these localized thickened areas. They are merely glazed, deep-yellow hyperkeratoses with a superficial furfuraceous scaling. Here again mycology must be invoked to prove our case.

A fourth type of the disease consists in isolated superficial infections of the ankles or dorsum of the feet—a type which will be described later as a class under the caption of infection of the exposed flat surfaces.

A possible fifth type of this localized infection may result in involvement of the nails, where we note dullness, thickness, dirty-yellow or brown discoloration, subungual hyperkeratosis and an infiltration, reddening and furfuration of the surrounding skin.

TABLE 5.—THE DISEASE ON THE HANDS

Age of Incidence	Sex	
	Males	Females
	No. Cases	No. Cases
Second decade.....	1	4
Third decade.....	9	5
Fourth decade.....	8	10
Fifth decade.....	7	2
Sixth decade.....	3	1
Seventh decade.....	1	1
Total .....	29	23

DURATION			
Days:	No. Cases	Years:	No. Cases
Two days.....	1	One year.....	6
Weeks:		Two years.....	1
One week.....	1	Three years.....	5
Two weeks.....	1	Four years.....	6
Six weeks.....	1	Six years.....	1
Months:		Seven years.....	1
One month.....	1	Nine years.....	1
Two months.....	2	Ten years.....	2
Three months.....	3	Eleven years.....	1
Four months.....	2	Twelve years.....	2
Seven months.....	1	Sixteen years.....	1
Nine months.....	1		

SEAT			
	No. Cases		No. Cases
Fingers .....	31	Dorsum .....	19
Palms .....	24		

OCCUPATION			
No. Cases		No. Cases	
Housewife .....	11	Machinist .....	3
Clerical .....	7	Doctor .....	3

and a long list of various other activities, each represented by one individual.

CHARACTERISTICS			
No. Cases		No. Cases	
Deep vesicular .....	22	Papular .....	5
Recurrent .....	13	Husband infected .....	2
Worse in winter .....	8	Calloused .....	2
Hyperhidrosis .....	6		

## CLINICAL APPEARANCES

The chapters on the foot can really be repeated almost verbatim in describing the objective characteristics of the hand; only we must make allowances for the customarily thinner horny layer of the palms, for the far greater aëration of the manual interdigital spaces, and for the greater liability of the hands to exposure to noxious irritants. These variations mean that the deep palmar vesicles are more superficial than the plantar and consequently are less liable to become pustular before they reach the surface and become ruptured; that maceration of the web of the fingers is seldom observed except in the fat housewife; and that secondary eczematization of the hands is far more frequently encountered. In this connection I wish to refer to an especially curious condition that has been noted in several instances—a condition which consists in an extraordinary multiplication of the natural folds of the palm which appear black and very superficial and criss-cross one another in every conceivable direction. I can liken this strange appearance only to that of a very detailed railroad map condensed to a small size. These differences of anatomy, dress and occupation tend to make diagnoses on the hands far more difficult. As may be inferred, the great differential diagnostic problem is that of eczema, and the problem is assuredly a serious one—in fact, one can seldom be positive in one's final opinion unless that opinion is backed up by the weight of microscopic and cultural evidence.

TABLE 6.—THE DISEASE IN THE AXILLAE

Age of Incidence	Sex	
	Males	Females
	No. Cases	No. Cases
Second decade.....	3	2
Third decade.....	3	9
Fourth decade.....	0	1
Fifth decade.....	5	3
Sixth decade.....	4	4
Seventh decade.....	1	0
Total .....	16	19

DURATION			
Days:	No. Cases		No. Cases
Three days.....	1	Two months.....	2
Weeks:		Three months.....	1
One week.....	2	Four months.....	2
Two weeks.....	3	Six months.....	2
Three weeks.....	1	Years:	
Four weeks.....	1	One year.....	1
Months:		Three years.....	4
One month.....	2	Sixteen years.....	1

SEAT			
	No. Cases		No. Cases
Both axillae.....	18	Right axilla.....	2
Left axilla.....	8		

## OCCUPATION

Students, 7 cases, and a long list of other activities, each represented by one individual.

## CLINICAL APPEARANCES

The clinical characteristics of the eruption in the axillae tally very closely with those described in connection with the thighs, but even more accurately with the appearances noted on the pubes. Usually the picture is one of a single, symmetrical area, limited to the axillae and folded on itself when the upper arm is flexed against the chest wall. There may be, however, several smaller areas of the same nature; or again the disease may spread out continuously over the breasts, and occasionally under them or downward over the flanks; or finally there may be nearby satellite lesions, isolated from the mother spot. The affected areas are yellow-pink-red with a mildly accentuated and somewhat redder border. There is practically no visible scaling, presumably on account of the natural local moisture, and the infiltration is usually negligible. As in other hairy regions the plant seems to ignore the presence of the hair, leaving it untouched and not affecting its life tenure. The itching, especially in highstrung individuals and particularly in stout women, may be almost unbearable. Recurrence of the disease in situ is very common.

## THE DISEASE ON THE LARGER FLAT SURFACES

The description of this multiform disease on the larger flat surfaces of the trunk and the extremities is not an easy task, for the eruption may be eczematiform, psoriasiform, pityriasiform or lichenoid. This last type comes only on opposed surfaces and has already been detailed in connection with the disease of the upper thighs.

The eczematiform and the psoriasiform varieties begin as macules, delicately raised and infiltrated, which soon present a slightly depressed center covered by finely homogeneous, yellow-white, extremely adherent scales. The progress and the extension of these original lesions may

be extraordinarily slow. Neighboring areas may not coalesce for weeks and may even fade away entirely without ever joining each other. As time goes on the primary eruption differentiates into the eczematiform or psoriasiform subvarieties and further description becomes unnecessary in consequence, except to state that comparatively large surfaces may be covered by direct extension from the original site. Simulation of *eczema seborrheicum* may be extreme and an objective differential diagnosis becomes a practical impossibility. It is necessary to say that all these lesions of whatever type remain superficial and always dry unless overstimulated artificially or secondarily infected, as once in a very fat woman where the disease under one breast and on the upper abdomen took on a multiple impetiginous aspect. When of any good size the areas always disappear by central involution, thus leaving curious circles or segments of circles or ellipses. The color is apt to be brick red. Itching or burning may be a striking feature. Resistance to remedies usually successful in combating eczema, *eczema seborrheicum*, or psoriasis is the absolute rule. When neglected and untreated the disease usually lasts well into the cold weather and then gradually disappears without medical assistance. With the advent of early summer the eruption is apt to recur. Several such cases I have been able to observe, and in one instance, that of an intimate friend who would never take the trouble to treat himself, I have followed the disease over a space of eight or ten years, watching its annual recurrence, its seeming origin between the fourth and fifth toes, its multiple lesions on the lower legs or the arms or the backs of the hands, its slow, steady spread, its obstinate duration and its final subsidence in November or December.

The pityriasiform variety is in my experience decidedly rare and presents itself as multiple, homogeneously round, fairly sharply defined, delicately furfuraceous, brown-red macules which resemble in some respects the early lesions of pityriasis rosea and to a greater extent those of *tinea versicolor*.

#### THE DISEASE ON THE SCALP

One final form of the disease remains to be described, and that is the eruption as it presents itself on the scalp. Only once has this type been observed by me and, so far as I know, it has never been recorded by any other writer.

The patient was a Jewish cloth cutter, aged 47, who had developed the disease on the left thigh two years previously. One year later the man noticed one pea-sized spot in the frontal scalp, and went to a barber for advice. The barber gave the man a hot oil shampoo and in two weeks the whole top of the scalp was involved and remained *in statu quo* up to the time of his first visit to me, Jan. 22, 1919. A



doctor treated the condition for many weeks, using, among other drugs, oil of cade, ammoniated chlorid of mercury and chrysarobin without any appreciable effect. When first seen by me there was a typical epidermophyton infection of the left thigh and contiguous surface of the scrotum and of the perineum and perianal region. The pathologic picture on the scalp was one unknown to me. The man before the present infection had lost most of the hair from the top of his head, but the remaining hairs had persisted. For the most part the follicles appeared as patulous mouths, like the opening of a fine pepper box. In between many of these orifices and covering and obliterating others was a curious, brick-red, rather glistening and seemingly fibrous, curiously tortuous, elevated tissue with no suggestion of scales. Here and there, apart from this extraordinary development, was noted a papery exfoliation somewhat like that of a partly extinguished favus.

Whitfield's ointment was prescribed, and in two months, according to the man's story, the scalp was well. At my request the patient came to see me on May 19 and the scalp presented an apparently normal appearance—in truth, nothing pathologic, save the original alopecia, was visible.

This finishes the detailed clinical descriptions of epidermophyton infection in various parts of the body as observed and summarized in these 192 cases. There remains only to be repeated the important fact that in nearly 7 per cent. of the patients the disease occurs in more than one part of the body, as previously recorded in my second column of statistics; and furthermore, that the possible combinations of distribution of the disease are many—a fact also revealed in the same column.

#### ETIOLOGY

The infectious agent in the disease under discussion is the epidermophyton inguinale, first definitely proved and established by Sabouraud in 1910. Even the most careful inquiries on my part have usually failed to reveal the sources of infection in my patients. There seems to be, however, a fairly constant association of athletic activities in the thigh cases, and such an origin seems highly plausible, but this feature is strangely lacking in the other seats of infection. Familial infection occurs in a small proportion of the cases. In one thigh and perineal case the disease followed a series of liquid bowel evacuations. In one hand case the infection followed in two days the use of a new pair of wool-lined gloves; in another hand case the disease appeared after driving a spirited horse with new leather reins; and in a third example, after wearing a new pair of horse-hide gloves. In one foot case the eruption appeared after wearing an unwashed pair of woolen socks.

Thus we find only two well-defined sources of infection—the use of dirty, sweat-soaked, ill-kept athletic clothes and the intimate contact with clothing of animal origin.

#### DIFFERENTIAL DIAGNOSIS

The writings of Pellizari, Djelaleddin-Moukhtar, Whitfield, Sabouraud, Kaufmann-Wolff, Montgomery and Culver, Hartzell, Lane, Ormsby and Mitchell<sup>1</sup> and others have established beyond a doubt the existence of this especial form of ringworm infection, and their findings have been accepted by the medical world, so that he who reads and sees and thinks may readily diagnose the disease as it appears on the hands and feet and thighs; but what will be your verdict as to the very definite enlargement and extension of the question as presented to you today in the present paper, for up to now we have heard very little of the disease in the axillae, the flexures of the joints, the perineum, around the anus, on the pubes, in the umbilicus, on the scalp and on the larger flat surfaces of the body and extremities?

Naturally my doubts are very real, for these observations of mine are in no way substantiated by microscopical or cultural proofs, because in these endeavors I have utterly and repeatedly failed. Others, like me, have also failed, but this, of course, is no excuse. A few months ago I feared that my culture medium was imperfect, and in response to my letters of appeal Dr. Ormsby very kindly sent me medium which Dr. Mitchell was using successfully. Again repeated failures. Dr. Mitchell then pointed out that my technic in obtaining my material for inoculation was the source of my poor results and stated that:

A large amount of material should be collected and as many preparations should be made as may be necessary to demonstrate the organism. I have frequently made a dozen preparations in a given case. Sometimes a piece of tissue will be so thick that in an attempt to examine it immediately it will be so torn apart that it will be ruined. In such a case it is well to cover the tissue with the solution and the cover slip and allow it to stand over night. The following day the material can be gently pressed out into a thin smear, and the destruction of the cells which has taken place will admit of finding the organism with ease.

The culture of the organism is attended with many difficulties. The technic is tedious and requires infinite patience. You may not find a laboratory assistant who will devote attention to detail which is essential to success. I have made a practice of culturing only the pieces of tissue which have been shown to contain the organism; part of a given piece is examined under the microscope, and if positive the remainder is cultured. If the tissue is allowed to dry for several days the bacterial growth will be, as a rule, less abundant than if the culture is made from the moist tissue as it comes from the foot. Drying does not impair the growth of the fungus up to several months, beyond which I have not attempted to make cultures. Soaking in alcohol is essential to destroy the bacteria, and up to five minutes will not impair the growth of the fungus. The tissue should be in very small pieces the size of a pin head,

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1. Ormsby and Mitchell: Ringworm of Hands and Feet, J. A. M. A. **67**: 711, 1916.

placed in a watch glass, covered with alcohol for from three to five minutes, the alcohol decanted, and then the tissue is picked up on the point of a platinum wire and planted on the agar. If the wire is slightly warm the tissue will rapidly adhere, but much patience is usually required to make the tissue leave the wire and adhere to the surface of the agar. They should be planted not closer than 1 cm. to another piece otherwise the colonies will become contiguous. Large pieces of tissue are not sterilized by the alcohol, and moreover disturb the morphology of the colony which is a very important feature in the identification of the various fungi. From two to three weeks are required for the appearance of most of the cultures, although some will appear in ten days. There are several "laboratory tramps" which will get in and cause trouble unless one is careful in the technic. They are rapid growers and quickly spread over the entire surface of the agar, thus ruining that flask. I have frequently succeeded in getting from six to ten colonies in pure culture in a single flask.

I regret to say that since the reception of Dr. Mitchell's clear statement time and opportunity to fulfill his injunctions have not been available, but the work will be undertaken with vigor with the renewal of my hospital service.

In defense, therefore, of my attempted amplification of this disease I must rely on purely clinical and therapeutic evidence, as was the custom and often the accepted custom of precultural days. In fine, I base my belief in the correctness of my observations, first, on the fact that these hitherto rarely, if ever, recorded eruptions have practically always occurred in patients with the scientifically proved forms of the disease on the thighs, feet and hands; secondly, on the fact that these newly recognized eruptions are frequently eruptions essentially *sui generis*; and thirdly, on the fact that these lesions, having almost constantly failed to respond to older combinations of drugs generally successful in combating their commoner analogues, i. e., eczema, eczema seborrheicum, psoriasis, lichen circumscriptus and tinea versicolor, do yield rapidly to the careful and judicious use of Whitfield's ointment.

#### TREATMENT

The disease on the thighs, on the pubes and in the axillae will rapidly disappear after the application of an ointment containing precipitated sulphur, 2; salicylic acid, 2; and benzoated lard, 30; plus rigid antiseptics; but care must be taken that the skin of the penis and the scrotum is not overstimulated, and that the treatment must continue long enough to kill the plant in the horny layer as well as on it. The disease elsewhere, so far as I know, will not yield to this ointment or to any other combination of the ordinary drugs save that known as Whitfield's ointment, i. e., salicylic acid, 2; benzoic acid, 4; benzoated lard, 3. As an exception to this rule I might mention a man who had taken arsenic for 10 days with the eventual closing of his eyes, in whose case the deep palmar vesicles disappeared. But even with this peculiarly happy combination of Whitfield's, considerable skill is required



to effect a positive cure, for ill success is common and relapse is frequent. The fact is that we need a peculiarly penetrative and selective and powerful weapon to ferret out and destroy the fungus without exerting too strong an organotropic effect. Such a weapon is no more easily obtained in epidermophyton infection than in any other, be it syphilis, tuberculosis, staphylococcia or what you will. Nevertheless, Whitfield's clever discovery is very often successful, sometimes brilliantly so, and strangely enough, with the disappearance of the pathognomonic symptoms of the disease itself, the frequent concomitant hyperhidrosis vanishes *pari passu*, but the use of this seemingly simple remedy requires constant oversight on the doctor's part.

In my own work, apart from the rare and immediately favorable results, I have found that overstimulation and exfoliation can be successfully combated and tided over by the judicious use of Black wash (calomel, 2; liq. calcis, 250) or 5 per cent. crude coal tar ointment, or a mild salve composed of salicylic acid, 0.65; subnitrate of bismuth, 8; cornstarch powder, 4; rosewater ointment, 30.

In conclusion, I wish to record two especially brilliant results following the use of Whitfield's ointment, both, curiously enough, in doctors. The first was in a man of 52 who had lost forty pounds in weight from insomnia and pruritus during the two years of his disease, which appeared in the form of large, organized, flat-topped, purple-red, probably follicular papules, radiating outward, upward and downward from the anus, and as a large, solid area of dull red infiltration on the dorsum of the foot, spreading from the typical sodden infection of the interdigital spaces. Throughout these two years the patient had received numerous topical applications and had passed several months in one of our nationally celebrated sanatoriums. He eventually received from me Whitfield's ointment, and five months later he replied to my inquiry that "the salve acted like magic and was certainly a knock-out," and that the objective and subjective change was very rapid. The second case was in a physician of 60 years, a syphilitic since 1885, who presented on his soles and heels large, scattered, deep red infiltrations which from time to time were deeply and painfully fissured; on the balls of his feet were thick, yellow, glistening calluses, and between his toes the typical, pathognomonic soddenness. This man had received every form of modern antisyphilitic therapy and had reached an apparently permanent condition of Wassermann negativity and yet the planar and interdigital conditions remained totally unmoved. He received Whitfield's ointment and seven weeks later showed me two strikingly normal feet save for the persisting painful calluses behind the toes. This was in January, 1919. The man came to me originally in 1911, saying that before his syphilitic infection in 1885 he had noted yellow "spots" on his palms and soles. At his first visit to me I recorded



"distinctly eczematous, infiltrated and excoriated, red areas on the front of the left leg; on the dorsal aspect of the toes and on the plantar and dorsal surfaces of the left foot a very confusing, dull red infiltration; on the sole of the right foot, involving the toes, above and below, a similar slightly desquamating integument. Is this eczema, syphilis or psoriasis?" In 1911 I did not know enough dermatology to make a proper diagnosis; in December, 1915, I was able to make a proper diagnosis, but did not know of Whitfield's ointment; in 1918 a proper diagnosis and a proper remedy were available and this long-suffering patient was soon on his way to a permanent relief from his thirty odd years of discomfort and pain.

It is certainly instructive to note in both of these patients the puzzling multiformity as well as the well recognized obstinacy of the disease produced by the epidermophyton.

# TRANSVERSE HYPERPIGMENTED LINES OF THE THORAX AND ABDOMEN OF A NEGRO INFANT\*

FRED D. WEIDMAN, M.D.

PHILADELPHIA

The child, a boy, aged 6 weeks, came to necropsy at the University Hospital, dying of enteritis on the service of Dr. James P. Crozer Griffith, to whom I am indebted for permission to report the case. A clinical history of the duration of the lines is unobtainable, for the child was in the children's ward but one day and there are no notes concerning the lines on the history sheets.

## MACROSCOPIC EXAMINATION

At necropsy the lines were at first regarded as due to dirt which had collected in skin creases along lines of body flexure, but it was quickly noted that there was in addition a very distinct linea nigra from the umbilicus to the pubis, and that the lines extended to a level well upward over the ribs (a rather rigid foundation over which flexion is not to be expected); and, finally, vigorous rubbing did not efface them. For these reasons it was concluded that they were really in the skin and deserved special study.

As shown in the photograph, the lines begin 18 mm. below the level of the nipples, are spaced at regular intervals of from 8 to 10 mm.; are ten in number and cease about 2 cm. above the pubis. Laterally, they reach fully to the midaxillary line.

## MICROSCOPIC EXAMINATION

Microscopic sections were made first to determine the nature of the pigmentation, and secondly with the thought in mind that the lines might represent the cutaneous junction of embryonal segments and that under them nevoid cells might appear in a form which would throw some light on the debated genesis of pigmented nevi.

The histologic examination shows that the lines are referable to an excess of the ordinary melanin pigment in the rete with no changes in the corium. As shown in the illustration (Fig. 2) the block of tissue was selected at one of the creases, the crease appearing in the section as an angular indentation near the middle of the surface. On either

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\*From the Laboratory of Dermatological Research, Department of Cutaneous Medicine, University of Pennsylvania.

side of the indentation it can be clearly seen that the pigmentation is more marked than in parts beyond. This hyperpigmentation was only demonstrated by cutting frozen sections and mounting directly into glycerin.

More detailed examination of the rete shows that the grade of pigmentation is irregular along different stretches lateral to the crease,



Fig. 1.—Gross photograph of infant.

and that some groups of cells out here contain as much pigment and are pigmented in just as great numbers as those *in* the crease. This means that the crease is darker grossly, not because its cells contain more pigment granules than those elsewhere, but because here there are no microscopic alternations of highly and lightly pigmented stretches such as are seen on either side. Or, put in another way, the deep color in the crease is not diluted by the interposition of occasional lighter stretches.

## COMMENT

It might seem at first sight that out of the above comes a possible explanation of these hyperpigmented lines. It is well known that negro babies are born with very little cutaneous pigment, and the greater warmth and moisture in the creases might be thought of as favoring metabolism in the rete cells here, in the direction of pigment production during this postnatal period, when normal pigment production is particularly free. But against this is the fact, first, that the *linea nigra* appears just as prominently in the illustration and yet is unassociated with any crease; and secondly, that what we must explain is the uni-

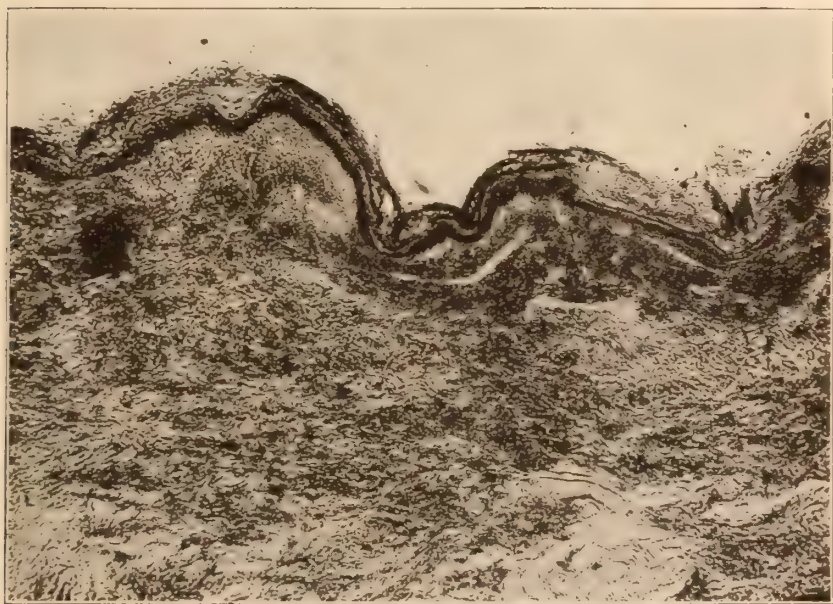


Fig. 2. Photomicrograph of frozen section unstained and mounted in glycerin. Taken at one of the creases.

formity of extent of pigmentation in the crease and not quantity. It is just as bulky in spots elsewhere. A more likely explanation is that in the rapid growth of the skin at this age the proliferation does not occur so freely in the creases and *linea nigra* and that pigment therefore appears in all cells here; whereas in other parts, groups of cells in rapidly dividing might have their pigment distributed over a larger area. But why, in the above hypothesis, the proliferation should be freer outside the creases we are utterly at a loss to say.

The corium shows nothing abnormal. We find nothing of nevoid cells or pigmentation which we had thought of at necropsy as mentioned above.



## PRACTICAL CONSIDERATIONS

Out of the histologic studies has come a practical point. We were very much surprised when the first set of histologic sections came through by the paraffin embedding method, to find that there appeared to be no excess of pigment in any part of the skin and we set about to determine why there should be this grossly but not microscopically recognizable pigmentation.

In line with this, Dr. Milton B. Hartzell has commented personally to the writer that pigment maculae which were grossly visible have been unrecognizable as such in a number of microscopic sections which

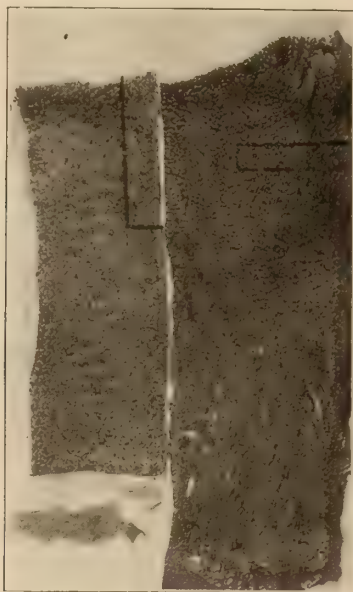


Fig. 3. Two pieces of skin from adult negress. The rectangles indicate parts subjected to histologic examination.

he has prepared, and in order to test this observation quantitatively, and possibly optically measure the gross difference necessary for microscopic detection, we took a photograph of two pieces of skin of different grades of pigmentation obtained from a negress after death, and compared them with microscopic sections from the same pieces. The two pieces were photographed side by side at the same exposure, and blocks of tissue from them were carried through the same laboratory processes, side by side, including fixing, paraffin embedding, sectioning (both tissues in the same block) and staining. This rules out any possibility that microscopic differences observed in the two blocks

might be due to inequalities of shrinkage, staining, section thickness, etc. Furthermore, in cutting the sections the knife was carried lengthwise along the skin surface in order that if there be any vibration and consequent irregularity in section thickness it would tell synchronously and equally on both of the sections of epidermis, to be compared at any given level.

The results are shown in the illustrations herewith. There is a distinct difference in depth of pigmentation between the skins, grossly. In the microscopic section from the paler piece there is some uneven-

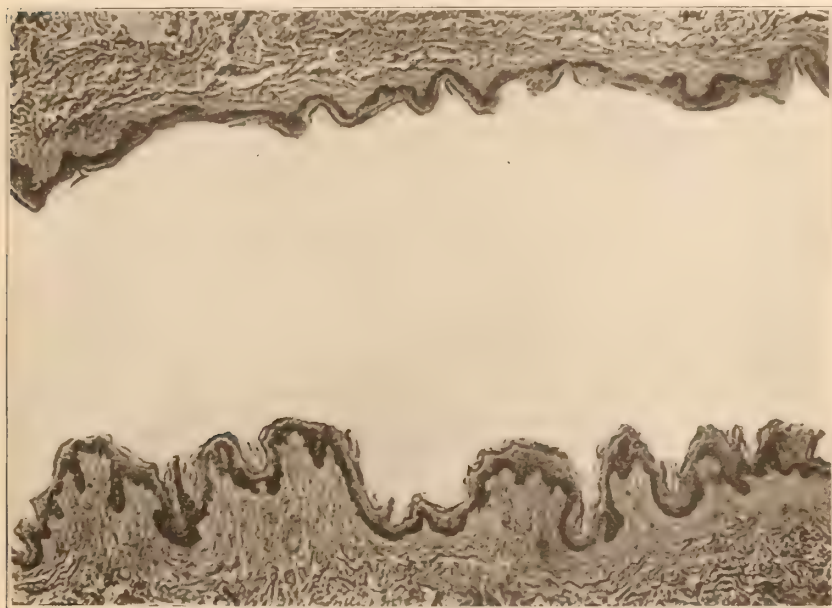


Fig. 4.—Paraffin sections from positions indicated in Figure 3.

#### COMPARISON OF THE TWO TISSUES STUDIED

ness of pigmentation along different stretches which is clearly not referable to uneven sectioning, because the darker piece adjacent does not also show it. The more deeply pigmented parts of this pale piece have about the same coloration as the darker piece and it is only in the paler parts of it that a difference can be recognized from the other.

This shows in the first place that the pigment, even in parts where it appears uniform grossly, may at times (but not always, as shown in the darker piece) be irregular microscopically; and secondly, that the grade of difference in pigmentation grossly illustrated in the material we selected *can* be recognized microscopically.

Feeling that the microscopic difference ought to be greater in view of the gross difference, and suspecting that the laboratory reagents used in the embedding might have dissolved out or otherwise altered the pigment, frozen sections were cut with the result shown in Figure 5. These sections were taken from blocks immediately adjacent to those prepared by the paraffin method and grossly showed the same color differences. They are unstained, mounted directly into glycerin, and promptly photographed. There is both more pigment in both blocks and a greater contrast, which seems to more truly express the gross

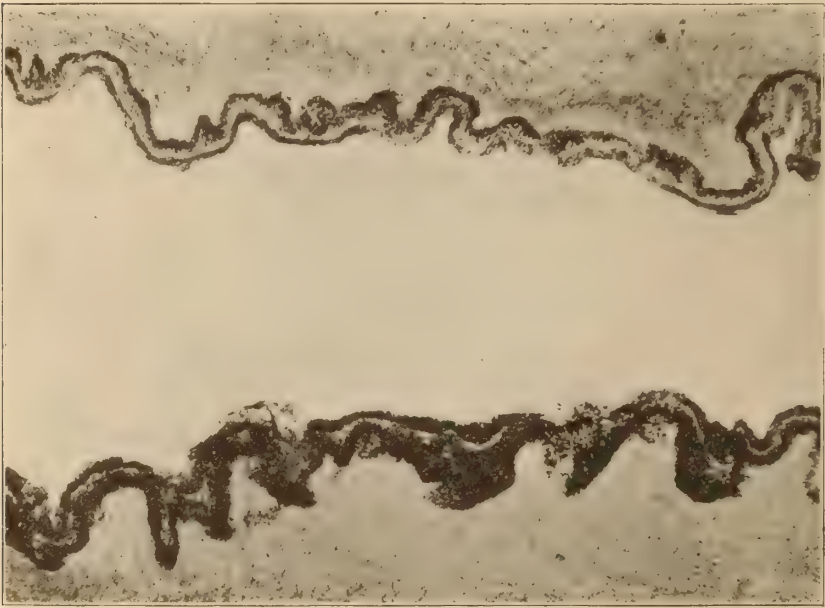


Fig. 5. Frozen sections in glycerin, unstained, from same positions as in Figure 4.

differences than in the case of the paraffin sections. We conclude from this that some, but not all by any means, of the pigment is dissolved out or altered in the paraffin technic, and that it is better to use the frozen section method when studying finer matters of pigmentation. It might be mentioned in passing that Stevenson<sup>1</sup> has found an allied melanin soluble, reporting that acid alcohol dissolves malarial pigment in from 5 to 8 micron sections, and that this fact is useful where it is so abundant as to obscure tissue details which are proposed to be studied. But it certainly does not dissolve skin melanin as fully as Stevenson indicates for malarial pigment.

1. Stevenson, A. C.: *J. Trop. M. and Hyg., Lond.* **20**:277, 1917,

## CONCLUSION

From the standpoint of the case here reported it was this finding which led to the second set of (frozen) sections and the ultimate microscopic determination of the position of the hyperpigmentation. Without it the case would have been without point and not reportable.

The case is, then, a curiosity. The validity and the position of the hyperpigmentation are demonstrated histologically, but the reason for the linear distribution is not apparent to the writer, even in sections, and still remains unknown to him.



# DERMATITIS EXFOLIATIVA; REPORT OF A FATAL CASE \*

MAJOR JOHN B. LUDY, CAPT. LLOYD COGSWELL

AND

CAPT. ERNEST L. HUNT

CAMP HANCOCK, GA.

## INTRODUCTION

The case of dermatitis exfoliativa herewith reported must be classified as one supervening on an eczema. The causes of all the various types of this disease are undoubtedly of toxemic origin, the kind varying in the different types, whether autotoxins, bacteria toxins or chemical poisons. The acute types are caused by chemical poisons such as mercury, quinin, opium, belladonna and chloral, while the chronic or recurrent types are caused by the toxic tuberculids (type of pityriasis rubra of Hebra).

The continued and profuse desquamation with absence of crusting or exudation would differentiate this disease from other scaly eruptions. The absence of angina, absence of strawberry tongue and early desquamation of dermatitis exfoliativa differentiates it from scarlet fever.

Special attention is called to the condition of the mucosa of the ileum and jejunum as given in the necropsy report.

## REPORT OF CASE

*History.*—C. J., colored, aged 22, admitted Jan. 7, 1919, was a well nourished individual presenting on admission a papulo-squamous eczema.

*Family History.*—The family history was negative. There was no history of tuberculosis in the family. The mother, three brothers and three sisters were living and well. The father died at 48 from an accident.

*Previous Personal History.*—The patient had measles and mumps in childhood. He gave a history of an attack of eczema involving the major portions of the body surface at the age of 14. He had had similar attacks since that time occurring in the spring of the year and lasting about six weeks.

*History of Present Attack.*—About Dec. 26, 1918, the patient first noted a sensation of itching of the skin of the abdomen. He took a bath, using a yellow laundry soap. After this he noticed "pimples" on the abdomen and legs. A few days later he took another bath using the same kind of soap, after which he developed the condition as present on admission.

*Condition on Admission.*—The patient presented a papulo-squamous eruption involving the skin of the trunk and flexor surfaces of the arms.

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\* From the Department of Dermatology, Camp Hancock, Ga.

*Physical Examination.*—The examination of the heart, liver, spleen and abdomen proved to be negative. Examination of the urine on admission was normal. The blood picture was normal; the Wassermann reaction was negative. Temperature on admission was 99.4, respiration 22, pulse 88.

*Subjective Symptoms.*—The patient complained of intense itching of the skin of the arms and abdomen. A few days after admission he took another bath (contrary to instructions), after which he complained of headache, chilliness and intense itching of the skin.

*Objective Symptoms.*—The skin presented a marked reddish tint. On the tenth day of admission the patient had an evening temperature of 101.6 F. Rather profuse scaling and a general lymphadenitis were present. The mucous membrane of the mouth was infiltrated and thrown into folds. The mucous membrane of the lips was exfoliating. A few days later a general anasarca condition developed and on the fourteenth day of admission the patient developed a pulmonary edema and complete anuria with fatal issue on the same day. The scaling was very profuse and covered the bed and floor by its side. The scales were for the most part small although some large ones were noted—the latter appeared adherent on one border and free elsewhere. No exudation beneath the scales or crusting were noted.

#### REPORT OF NECROPSY

The necropsy was held, Jan. 22, 1919, at 9:30 a. m. The clinical diagnosis was dermatitis exfoliativa and acute nephritis.

*General Description.*—The body was that of a well-developed and well-nourished black man, 5 feet 10 inches in length, estimated to weigh 175 pounds. It presented a general desquamation of large epidermal scales and plaques extending from forehead to midway between knees and ankles. The palms of the hands were unaffected. On dorsal surface of hands and feet were several small pigmented heaped-up indurations. The skin of back was soggy and denuded of epidermis over large areas so that pinkish tips of papillae of corium showed through. The feet showed marked flattening of antero-posterior arches with pronation. There was a general subcutaneous edema. The pupils were equal, 0.3 cm. in diameter. There was a filmy corneal haze in both eyes suggestive of desquamative process of the surface layers. The head was not opened. The body was opened by a long median incision. The axillary and inguinal glands were enlarged and soft, but not broken down; the musculature was in good preservation.

*Thorax.*—The pleurae contained about 30 c.c. each of blood tinged fluid. The lungs were voluminous and there was an old adhesion band near the right apex and general edema of both lungs.

*Right Lung:* The upper lobe was of increased density, the surface of purplish color. Cut surfaces presented an irregular, dappled appearance, dark-colored dots 1 to 3 mm. in diameter being scattered in a field of pink. Much bloody, frothy fluid oozed from the cut surfaces; the lower and middle lobes were similar, though less dense and more uniformly aerated. The sections sunk in water. Trachea and bronchi were slightly injected.

*Left Lung:* This was similar to the right lower lobe. The bronchial lymph nodes were not particularly enlarged, but showed a considerable anthracosis.

*Pericardium:* This was free of adhesions and contained 60 c.c. of clear, yellowish fluid. The epicardium was smooth save for an irregular milk spot about 2 cm. in diameter on the anterior surface of the left ventricle.

*Heart:* It was much dilated and distended with fluid blood and small soft clots. The muscle was soft and flabby and of rather unusual purplish color. The measurements were: T. V., 13.5; R. V., 0.5; P. V., 8; L. V., 1.1; M. V., 9;

A. V., 6.8. The aortic ring showed an encircling row of fine irregular thickening beneath intima, otherwise smooth. It measured in mid-thoracic 4 cm., and midabdominal 3.7 cm. in internal circumference.

Abdomen: The general peritoneal cavity was free from adhesions and contained about 500 c.c. of thin straw colored fluid. Gastro-Intestinal Tract: The stomach was of medium size and contained a good deal of greenish mucus. The small intestines also contained considerable mucus. Through the jejunum and ileum the mucosa was covered with irregular red blotches which in the jejunum had a tendency to be transverse and occupy spaces between the rugae. This appearance was not found in the colon, but there was much mucus. The walls of the intestines were edematous as were the mesentery and retroperitoneal tissues.

Liver: The margin was 3 cm. below the rib border; the organ was large, estimated to weigh 2,000 gm., of dull red color, and the markings were very indistinct.

Spleen: It was four times the normal in size and measured 15 cm. in length, 9.5 cm. in width and 4 cm. in thickness. It was hard, brittle, and on section the markings were indistinct; the pulp scraped easily.

Kidneys: They were greatly enlarged; the right one measured 14 by 6.5 by 6 cm., the left, 13.5 by 7.5 cm. The capsules peeled readily. The organs were of uniform, pinkish tinge. On sections cut surfaces bulged beyond the capsule. The cortex was 0.7 cm., the pyramid 2 cm. Demarkation between cortices and medullae were ill-defined. Cortices were of pale pink hue with striations of deeper pink. Pelves: The pelvis were empty and showed slight punctate, submucous petechiae. The bladder was contracted and empty; the mucosa marked with irregular blotches which appeared like delicate ecchymoses. The prostate was small and normal in appearance. The adrenals were thin; the medullary portion seemed proportionately less than the average. The pancreas appeared normal.

Penis shows old superficial scar, size of a dime, on right side of glans. Otherwise external genitalia are negative.

*Bacteriologic Findings.*—Cultures: a. Spleen: These were small, nearly transparent colonies showing gram-positive diplococcus in the smear, and large opaque, elevated colonies showing gram-negative bacillus.

b. Heart's blood: The broth cultures showed both a gram-negative bacillus and a gram positive diplococcus.

Subcultures from gram-positive colonies of spleen showed hemolytic colonies on blood agar and chain formation in the broth.

Summary: Hemolytic streptococcus, associated with an unidentified bacillus.

*Histologic Findings.*—Skin from thigh sections showed a thinning of the epidermis with excessive cornification and splitting off of great strips of flattened cells many of which still showed nuclei and contained pigment granules. The transformation of cells to the squamous type seemed to begin in the lower strata of the epidermis, especially over the papillae, the tips of many of which seemed to be covered only by the cells of the rete and the cornified layer. An occasional polynuclear leukocyte was seen between the cells of the rete. Pigmentation was irregularly distributed through all layers of the epidermis and also is seen in masses in the stroma of the papillae. In the corium the papillary portion was somewhat irregularly, but quite intensely infiltrated by polynuclears of which eosinophils formed a considerable proportion. In the neighborhood of the hair follicles there were lymph spaces about the capillaries and ducts of sweat glands. The sweat glands themselves appeared normal both in sections from the thigh and others from the axilla.

Lymph Glands, Axillary and Inguinal: The connective tissue envelopes were relatively thick and the processes extended well into the gland substance. Gen-



erally, however, the stroma was delicate and loose, its strands enclosing many cells of the lymphoid types among which plasma cells were frequent with an occasional polynuclear. The most striking cell present was a large one having a single excentrically situated nucleus with the whole cell-body crammed full of red corpuscles and now and then a leukocyte. The nucleus of the phagocyte was large and vesicular, easily distinguishing it from that of the ingested cells. These cells appeared somewhat in clusters in the lymph spaces. There were also a few cells loaded with pigment granules. The germinal centers of the glands were hardly distinguishable from the general structure.

**Lungs:** Sections from all lobes had certain features in common, the alveoli being filled by amorphous, slightly basophilic coagula which included various blood form elements, red cells, lymphocytes, plasma cells and polynuclears varying in degree in the different sections. There were also many large mononuclear cells loaded with pigment granules ("heart-failure cells") and a good deal of large amorphous pigment or carbon granules scattered, but chiefly found in the lymph spaces about the vessels. All capillaries were much congested. In the left upper lobe there was, in addition a peribronchiolitic infiltration by lymphocytes and polynuclears, separation of the mucosa from the submucosa and fragmentation, so that groups of mucous cells lay loosely within the bronchioles. In certain areas the cellular elements in the exudate predominated. In the right upper and lower lobes there were foci of polynuclears of such intensity as to suggest beginning abscess formation, and others where the red cells so predominated as to present a hemorrhagic appearance.

The general picture may be summed up as acute passive congestion and edema with peribronchial and focal pneumonitis.

**Kidneys:** There was marked edema of the interstitial tissue with infiltration by lymphocytes, plasma cells and polynuclears. The tubular epithelium was pale and swollen with ill-staining nuclei. The tubules all contained cellular debris and a reticular or homogeneous coagulum. The tubules appeared widely separated and under high power, the intervening tissue seeming to partly consist of cells from disorganized tubules. Certain tubules were greatly dilated and the epithelium was stretched out very thin, the lumina being occupied by amorphous basophilic coagula. There was a marked general congestion of the blood vessels and the glomeruli were greatly engorged. In a few instances Bowman's capsule seemed obliterated, but generally the glomeruli were better preserved than the other elements.

**Adrenals:** The cells of the cortical columns showed irregular exhaustion of the protoplasmic substance which normally stains intensely with eosin. In the medullary portion the cells were pushed apart, stained poorly and the stroma showed foci of infiltration by lymphocytes and polynuclears.

**Liver:** There was extreme edema and engorgement, the intertubular spaces being nearly as wide as the tubules and filled with blood. The liver cells were cloudy, the nuclei being obscured in places. There was considerable deposit of small and large pigment granules and masses in the cells. This pigment was dark brown in the hematoxylin-eosin sections, not at all like the biliary pigment. There was practical absence of fatty changes and slight infiltration of the perilobular connective tissue.

**Spleen:** There was engorgement to such a degree that venules and sinuses could not be discerned because of the crowded red cells; the trabeculae and malpighian corpuscles could be made out, but the latter seemed relatively small and lacked the usual proportion of lymphocytes. Polynuclears were frequent throughout the sections and here as in the liver there was much scattered dark pigment in irregular granules and masses.

**Intestines:** Sections of jejunum and ileum showed hyperplasia of lymphoid elements, and intense but somewhat irregular engorgement in the former; this



was particularly noticeable in the villi, in many of which large accumulations of red cells appear. There was much fine dark pigment scattered through the mucosa, both free and in the endothelial leukocytes. Polynuclears and occasional eosinophils were present in the mucosa. The muscularis and submucosa seemed unaffected save by the edema.\*

#### SUMMARY

The case presents a diffuse generalized desquamative skin inflammation associated with general hyperplasia of the lymphatic glands and with melanosis; complicated by acute diffuse nephritis; passive congestion and edema of the lungs with pneumonitis, acute peribronchial and focal; macular hyperemic eruptive lesions of the small intestine; passive congestion and parenchymatous degeneration of the liver; passive congestion of the spleen; passive congestion and cell exhaustion of the adrenals.

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\* Specimens pertaining to this case are in possession of Army Medical Museum.

## Correspondence

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### SIMPLE TREATMENT FOR MOIST ECZEMA AND OTHER CONDITIONS

*To the Editor:*—In cases of moist eczema, dyshidrosis, dermatitis or pyogenic infection of the hands an intertrigo often develops between the fingers, and is very bothersome to the patient and difficult to cure. It is customary to insert a pledget of cotton between the fingers, but when these are soaked with secretion they are little better than nothing. A patient of mine who had a



Method of treating moist eczema and other conditions with bandages around the fingers.

very severe pyogenic infection of the hand solved the problem in an ingenious and, as far as I know, in an original way by putting several turns of a one-inch bandage around the middle of each finger, thus keeping the affected parts separated and allowing the medicament to be readily applied. It would seem that the same method might be of use in similar trouble with the toes. The accompanying photograph shows the idea plainly.

T. M. BULL, M.D., Waterbury, Conn.

**BLASTOMYCOSIS**

*To the Editor:*

Last summer a patient came under my care suffering from blastomycosis of the hand. The lesion occupied almost the whole dorsum of the hand and one-fourth of the metacarpals of the middle fingers. He had been under treatment for six months; radium had been applied locally and potassium iodid given internally. The ulcer improved for a short time but later became larger and more painful than before.

Realizing the value of trichloroacetic acid as a solvent of keratogenous tissue I thought it might prove equally successful in destroying the cell membranes of the yeast fungus. I applied the acid pure to the whole part and told the patient to report in a week. On his return it looked less active and he said it felt better. After four applications it seemed practically well; the patient felt it was all right and did not report again.

I had hoped to have an opportunity of trying this method on other cases but as none has presented itself I wish to know if trichloroacetic has been tried by others and with what result.

It is advisable to saturate the ulcer with cocain before applying the acid as the pain that it causes is quite intense.

ANSTRUTHER DAVIDSON, M.D.,  
Los Angeles, Calif.

# Society Transactions

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## NEW YORK DERMATOLOGICAL SOCIETY

*Regular Meeting, May 27, 1919*

GEORGE H. FOX, M.D., *President*

CASE FOR DIAGNOSIS (Cartilaginous-Like Plaques in the Skin). Presented by DR. TRIMBLE.

The patient was aged 14 months and the condition had existed since birth. The lesions were located on the abdomen and back, and consisted of several cartilaginous-like plaques situated in the skin. They were thin and movable, and were unaccompanied by inflammation.

CASE FOR DIAGNOSIS (Probably Roentgen-Ray Dermatitis). Presented by DR. TRIMBLE.

The patient, a boy, aged 11, had lesions on the face, abdomen, and thighs, and the condition had existed for five years. From the eyes down to the knees there was a diffuse sprinkling of the surface with freckles, telangiectases, areas of atrophy and scarring. All the lesions were on the front of the body. An area on the front of the neck under the chin was free from lesions. Five years ago he returned from a hospital in Brooklyn after some slight operation on the right thigh (incision and drainage of an abscess). The wound was clean and surrounded by an area of redness, which afterward extended over both thighs, the abdomen, chest, face and both arms. The lips and chin were eroded and swollen, the eyes were congested and discharging; the abdominal wall was swollen. He had had erysipelas (?), the freckles outlining the area involved. The skin over the chest sloughed, leaving an ulceration over the sternum which extended deeply, exposing the costal cartilages. He was later sent to the Long Island College Hospital where a resection of necrotic ribs was performed. The wound healed, leaving the scar shown. No drugs were taken. He later developed pulmonary tuberculosis.

### DISCUSSION

DR. CLARK thought it was a typical picture of the result of roentgen-ray treatment, a roentgen-ray dermatitis. The skin was unaffected on the neck where the chin protected it from the exposure.

DR. SCHWARTZ also thought it was a roentgen-ray dermatitis.

DR. MACKEE felt certain the condition was a roentgen-ray sequela and not a xeroderma as some one had suggested. The points made by Dr. Clark and others, telangiectases radiating from the center, consisting of atrophic scar tissue of the same type seen after roentgen-ray burns, were confirmatory. He was rather under the impression that the "erysipelas" which the boy was said to have had was also due to the roentgen-ray burn though it was called erysipelas, and the conditions presented were the sequelae. The dermatitis had healed. The bad feature of a case of this type was that it usually resulted in epithelioma.

DR. TRIMBLE expressed his regret that he had not been able to get a better history of the child—one in chronologic order from the time he was taken ill to the time of presentation. According to the story, the first time the child



was ill he had had cellulitis of the leg; that was operated by a long incision. After that, the child had abscess formations in other parts of the body, one of which localized itself in the chest. An operation was performed on the abscess in the chest, and it was found that the ribs were diseased. That part of the history seemed to be correct. It was at this point probably that the roentgen-ray treatment was applied.

When the case was first seen at the hospital it seemed perfectly plain that the child had a roentgen-ray dermatitis; however, the boy himself, his father, and the family physician were unaware that the roentgen ray had been used. It also seemed quite unusual to have such a widespread dermatitis from the roentgen ray applied only in one area. Sometimes when applied to the abdomen it has been known to spread all over the abdomen, but Dr. Trimble had never heard of a case where it had spread to the knees and also to the face. Persistent effort failed to locate any record of the patient having had any roentgen-ray exposures. That was what seemed to make the case more interesting.

#### MONILETHRIX. Presented by Dr. WISE.

The patients were a mother and two of her three children, all affected with typical monilethrix of the scalp. These cases were previously presented at the New York Academy of Medicine and the Manhattan Dermatological Society. They were from Dr. Fordyce's clinic.

#### LUPUS ERYTHEMATOSUS OF THE FACE. Presented by Dr. WISE.

The patient was a girl, aged 15, from Dr. Fordyce's clinic, and the condition had existed for three months. She presented a diffuse, almost universal scaling and redness of the face, and disseminated pernio-like plaques of the dorsal and palmar surfaces of the hands.

##### DISCUSSION

DR. TRIMBLE commented on the frequency with which such cases were now seen as compared with ten years ago.

DR. G. H. FOX said that this was one of those cases in which the diagnosis of lupus erythematosus was usually made. At the same time, most of these cases of so-called lupus erythematosus differed from the ordinary lupus erythematosus of the face and constituted a distinct form if not a distinct disease.

#### KERATODERMIA PLANTARIS. Presented by Dr. WISE.

The patient was a woman, aged 54, and the condition had existed for thirteen years. She was from Mount Sinai Hospital Dispensary. She presented a pronounced hyperkeratosis of the soles of the feet, looking like psoriasis. The nails were thickened and brittle. With the exception of a dime-sized psoriasis-like lesion on the right wrist, there were no other eruptions on the body. The case was presented for differential diagnosis between psoriasis and keratoderma plantaris.

##### DISCUSSION

DR. G. H. FOX said that Hebra used to claim that psoriasis never attacked the soles and palms; yet shortly after he had published his own book quoting this statement he saw his first case of unmistakable psoriasis of the palms.

DR. MACKEE said he had seen cases where the lesions remained for a year or two before the psoriasis broke out elsewhere, but this woman had had the condition for thirteen years, and that would seem to exclude it. He had also seen keratoderma plantaris with Darier's disease, and syphilis with bilateral keratoderma of this type. Keratoderma blennorrhagica should also be considered.

DR. G. H. FOX said he would not make a diagnosis of psoriasis of the palms alone; if it occurred on the body, that was different. When seen on the palms alone it was likely to be confounded with syphilis or some other affection. He was inclined to doubt whether the diagnosis of psoriasis was applicable in this instance.

DR. WISE said he was inclined to believe it a keratoderma plantaris except for the one psoriatic spot on the wrist. That spot made him lean very much toward the diagnosis of psoriasis in relation to the hyperkeratosis of the soles of the feet.

#### CASE FOR DIAGNOSIS (Ulcer of the Leg). Presented by DR. WISE.

The patient was a woman, single, aged 28, from Dr. Fordyce's clinic, who presented a lesion on the left leg consisting of a punched-out ulcer. Dr. Trimble had probably seen it in his service. According to the patient's statement, a small tumor appeared on the leg four years ago and was treated at the Skin and Cancer Hospital with roentgen rays, resulting in a sloughing of the growth. A physician had pronounced it sarcoma.

When presented, the lesion was an ulcer about an inch in diameter with a surrounding area of induration; there was an enlarged gland in the left groin. She had come to the clinic for the purpose of learning whether the tumor should be treated with radium or removed surgically. She was advised to have the ulcer treated with radium, with surgical excision of the glands in the groin.

#### DISCUSSION

DR. MACKEE said that the ulcer did not impress him as being a roentgen-ray ulcer lasting three years. This ulcer was fairly active, undergoing necrosis with a discharge, and that would not occur with a roentgen-ray dermatitis of that duration. The patient also had an enlarged gland, and it would seem to be rather an infection, possibly a streptococcic infection.

DR. TRIMBLE said that probably the lesion was ready to break down, and would have done so even if she had not had the roentgen-ray treatment. The question of sarcoma could be determined by making a biopsy.

#### LUPUS VULGARIS. Presented by DR. WISE.

The patient was a young woman from Dr. Fordyce's clinic who was presented to demonstrate a case of lupus vulgaris of twenty-two years' duration, situated in the characteristic location of lupus erythematosus, namely, the nose and adjoining cheeks. She had been presented before several other societies during the year.

DR. CLARK said he could show a very good result in a similar case except that it was on the cheek and extended to the interior of the nose, involving the lip and gum over the incisor teeth. It had been entirely cleared up by roentgen-ray treatment except one side of the gum. Until recently he had not seen the case for two or three years. The patient still had some trouble over the left incisor tooth where the gum had eaten away, exposing the root. In his opinion, if this patient would submit to massive doses of roentgen-ray treatment she would be markedly benefited if not entirely cured.

DR. G. H. FOX said that the treatment to which he was most partial was suggested by him some years ago, namely, the use of the dental burr with carbolic acid. In his hands this treatment has cured cases more quickly and satisfactorily than roentgen-ray treatment. He did not know that anyone else had adopted his recommendation, but was confident that if others would try it they would soon be convinced of its value. The soft nodules could be destroyed readily by dipping the burr in pure carbolic acid and then boring into the lesions, just as the dentist did in a carious dental cavity.

## NEW YORK ACADEMY OF MEDICINE

## Section on Dermatology and Syphilology

*Regular Meeting, April 2, 1919*JOHN E. LANE, M.D., *Chairman*

## PRURIGO AND TINEA CORPORIS. Presented by DR. SCHEER.

The patient was a girl, aged 7. The eruption on the extremities and face was present for four years, and began a few days after vaccination. The patient presented a hard, shotty, papular eruption on the extensor surfaces of the extremities. There were a few lesions on the neck, chest and back. Some of the papules presented tiny pustules at their summits. There was no scarring. The eruption was intensely pruritic. The face presented an erythematous eczema, with exudation and crusting, involving the cheeks, bridge of nose, and ears. There was no deformity or scarring of the ears. The inguinal lymph nodes were moderately enlarged. The diagnosis of prurigo was made tentatively.

In addition, there were three or four circinate patches of tinea corporis on the abdomen and femoral regions, which had been present for two weeks.

## DISCUSSION

DR. PAROUNAGIAN disagreed with the diagnosis of prurigo, but agreed that the patient had tinea lesions of the pubic region. The other lesions suggested tuberculids.

DR. POLLITZER said he would never have thought of prurigo. The lesions on the arms were scattered here and there. In a prurigo of two years' duration where the process was so manifestly severe as this, one would get an extensive sheet of very much thickened skin. The absence of that feature alone would eliminate prurigo. One would have to study the case more than was possible in one hasty examination in order to arrive at a definite diagnosis. Some of the lesions seemed like blisters or a superficial abscess, suggesting a summer prurigo or hydroavacciniforme, or possibly Duhring's disease. There was also the history of remissions, the lesions coming and going, but not disappearing entirely.

## LUPUS ERYTHEMATOSUS. Presented by DR. OULMAN.

The patient was a woman with erythematous lesions on the face. She also had a lesion on the lips. The eruption had been present only a few days. The woman did not speak very good English, and the history was imperfect. The condition had improved very quickly under treatment. She had been under observation since March 15, at which time the condition was very much more acute than it was on presentation.

## LUPUS ERYTHEMATOSUS OF LIPS. Presented by DR. MACKEE.

The patient, Eva T., aged 30, presented a dry ring of pigmentation along the borders of both lips, which she stated had been present as long as she could remember. For the past year she had suffered from redness and swelling of both lips, but they had never shown any vesicles. The lips were dry, tender, and inclined to crack.

## DISCUSSION

DR. BECHET suggested a diagnosis of cheilitis glandularis. The lesions were located on the vermilion part of the lower lip. The patient stated that at times she had noticed that there was spontaneous oozing from the lip of a muco-purulent secretion, which dried and caused considerable scaling.

ACANTHOSIS NIGRICANS OR DARIER'S DISEASE? Presented by  
DR. WISE.

The upper part of the chest of the patient, a young woman, especially the breast, presented a peculiar mottled atrophy of the skin, together with a slight lamellar scaling. The lower parts of the back in the region covered by the corset presented well defined scaling and very little erythema, somewhat resembling ichthyosis. There was a keratosis pilaris on the body, and a pigmentation of the axillae accompanied by a fine rugose formation of the skin, suggesting acanthosis nigricans or Darier's disease. The duration was two years. There were no subjective symptoms.

## DISCUSSION

DR. GILMOUR said he had observed a rather marked keratosis on the woman's legs and on the outside of the thighs, and suggested that the condition was keratosis pilaris.

DR. OULMAN said he would like to observe the case further before making a diagnosis. Clinically the picture resembled acanthosis nigricans.

DR. POLLITZER said that it was always interesting to compare one's clinical impressions of a case with the facts of a microscopic examination. Unfortunately there were few skin conditions that fit exactly into the frame of the type case. The case in question was certainly not a type case.

His first impression was that it was a case of acanthosis nigricans; the next, that it was Darier's disease. In favor of the former was the soft, papillomatous patch in the axilla, the slightly rugose, striated, pigmented areas in the elbow bends; against it was the fact that there was no diffuse pigmentation such as was invariably seen on the neck, though there were a few nummular, rough, pigmented patches, and there were no characteristic changes in the perineal and vulvar regions, and nothing of the papillary and pigmentary hypertrophy commonly found on the buccal mucosa.

In favor of Darier's disease there were the somewhat velvety pigmented patches in the axillae (though we usually found thicker and rougher concretions); and the small, rough, pigmented patches on the back of the neck fitted very well into the picture of Darier's disease; also the lesions on the back in the lumbar region were not those of acanthosis nigricans but were very suggestive of Darier's disease. That represented his clinical attitude.

He then examined the microscopic section and observed that there was a good deal of epidermic hypertrophy, a decided dystrophy of the epidermis, and on the lower border of the rete the irregular, proliferating growth that was characteristic of Darier's disease; there was also evidence of some cells—"corps ronds," which showed the peculiar dystrophy of that disease. The single hair follicle in the sections was greatly distended, with a mass of horny cells, and contained an atrophied hair. On the basis of a rather hurried examination, he hesitated to express a final opinion, but he was strongly inclined to a diagnosis of Darier's disease.

DR. WISE said that a peculiarity of this case was that it had no family history. No other member of this patient's family was ever affected with skin disease of any kind. The speaker said that in every other cases of Darier's disease he had known, some other member of the family had been affected similarly. This patient would be watched closely; another biopsy would be made, and a report made later. An interesting point was made by Dr. Pollitzer in showing that the two conditions may be very much alike. The lesions in the axillae absolutely could not be differentiated from those of acanthosis nigricans in a private patient under his care.



## CASE FOR DIAGNOSIS (ESTHIOMENE). Presented by DR. WISE.

Viola F. was a colored woman, born in this country and married. She had had two children, who died in infancy—the cause of death was unknown. There were no miscarriages. The duration of the skin trouble was about nine years, and followed an operation for hemorrhoids. The lesions were situated in the perianal region extending to the vulva, and consisted of pedunculated and large papillomatous masses, apparently covered with skin and soft to the touch. A few small lymphoid, warty lesions were present on the vulva. A microscopic slide had been prepared, but it showed nothing but a chronic inflammatory tissue; it may have been a poor biopsy. The Wassermann test was negative.

## DISCUSSION

DR. POLLITZER said that the case fell into the group described by the older writers as *esthiomene*, which was not a clinical entity, but all the cases presented this picture of hypertrophy, ulceration, scarring, etc., continuing indefinitely. They were due to a lymph stasis, and were in reality an elephantiasis of the vulvar region, with secondary changes due to infection. In this instance he would call attention to the clusters of large clear blisters on the labia, which were stationary and did not rupture or exude; they were really little lymph varicosities, and if punctured would discharge lymph. In elephantiasis of the vulva we may have all sorts of secondary changes. It was possibly first produced by some infection, a low grade of streptococcus, gonococcus, etc., producing inflammatory changes, blocking up the lymph supply, and leading to hypertrophy which involved the connective tissue, which in turn interfered with the blood circulation. This seemed to be a very good example of the secondary changes due to an elephantiasis of the vulvar and anal region.

## LUPUS VULGARIS; RADIO-DERMATITIS. Presented by DR. WISE.

The patient, David M., aged 37, was born in Wales and had lived five years in this country. The lupus vulgaris was of twenty-five years' duration, and had been treated in England six years ago with roentgen rays. When presented, the lesion consisted of a palm-sized patch on the right side of the neck, showing atrophy, depigmentation and telangiectasis. New lesions were developing at the border. The Wassermann test reaction was negative.

## PEMPHIGUS OF THE SOFT PALATE. Presented by Drs. WISE and LEVIN.

The patient, S. S., a man, aged 46, born in Russia, had lived in this country for twenty-seven years. His complaint was of one and one-half years' duration. It consisted of excoriations of the soft palate resembling superficial abrasions, as though the palate were scratched with an instrument. There were periods of exacerbation and recurrence, but the lesions never entirely disappeared. There were no lesions elsewhere. The Wassermann test was negative.

## ACUTE LICHEN PLANUS. TINEA CAPITIS. Presented by DR. ABRAWOWITZ.

The patient, Mary P., aged 5, was born in this country. The duration of the lichen was one week. The eruption was most marked in the groins and axillae, being characteristically circinate in the former region; those on the back and chest showed a small follicular type of typical lichen planus papules. Some scaly lesions were present in the armpits and the skin of the arms was xerotic. A typical ringworm was present on the scalp.

## DISCUSSION

DR. ABRAMOWITZ said that the history was very unreliable. The father stated that the eruption had existed for two weeks and that the lesions on the scalp appeared about the same time. The appearance of the condition was that of an acute type of lichen planus.

DR. OULMAN said that he could not see any lichen planus lesions, and that in his opinion it was a case of seborrheic eczema.

DR. CHARGIN disagreed with the diagnosis. While the lesions on the body were somewhat shiny, they did not suggest lichen planus. He suggested a diagnosis of lichen trychophyticus.

DR. POLLITZER said that the poor light furnished a very inadequate opportunity for examining the case. The lesions on the thigh were polygonal and shiny and some of them were capped by the minute characteristic scale of lichen planus papules—excepting that they were extremely minute. But the lesions were not necessarily lichen planus, and might be due to the effects of irritation. Against the diagnosis of lichen planus were the rather large areas in and in front of the axillae which could possibly be interpreted as eczematized areas such as might occur in lichen planus after it had existed for a long time, but not in the beginning stage. However, these patches looked like patches of eczema. The lesions scattered over the body seemed to be distinctly follicular. The possibility of pityriasis rubra pilaris should be considered; in a child of this age and with the rather acute onset of the condition the classical picture of this disease would be considerably modified.

DR. GILMOUR said he had noted the distinctive lesions with a slightly violaceous color, and thought the case was lichen planus.

DR. WISE again brought forward the child and the skin was examined under a good light, after which Dr. Pollitzer agreed with the diagnosis of lichen planus and this diagnosis was generally accepted.

## EPITHELIOMA OF THE FACE. Presented by DR. MACKEE.

The patient, Charles J., aged 56, born in this country, had suffered from the condition for eighteen years. There was a sharply defined and serpiginous lesion extending from the inner end of the left eyebrow along the frontal portion of the left side of the scalp, involving the entire left temporal region to a spot on the level with the lobe of the left ear. The frontal portion of this region was scarred and dry; the temporal region was crusted with a purulent secretion underneath. The Wassermann test reaction was negative.

## LUPUS VULGARIS AND SCLERODERMA. Presented by DR. WISE.

The patient, Nathan S., was a Russian, aged 17, who had been in this country for five years. In the right pre-auricular region there was an area about two inches long, consisting chiefly of atrophic scarring with little apple-jelly nodules in its interior. There was an atrophic scar on the outer side of the right eyebrow. On the back and hips were about a dozen scars, depressed and depigmented. One of these lesions was in the stage of involution, not having entirely healed, and was of a violaceous red color. The duration of the trouble was eleven years.

## SCROFULODERMA: TUBERCULOSIS VERRUCOSA CUTIS: PSORIASIS. Presented by DR. SCHEER.

The patient, a boy, aged 15, had suffered from this affection for twelve years. Two types of lesions were present. There was a true tuberculosis verrucosa cutis on the wrists and backs of the hands. The lesions consisted of isolated and circumscribed plaques in an active stage. The forearms presented several scars, circular in outline, depigmented and flat. One oval scar

over the ulna showed evidence of activity. There were also active lesions on inner aspects of the arms. The left leg presented active lesions from the knee down, and also scars on the inner side of the thigh. The lesions on the foot and ankle consisted of six or seven large nodular tumors, and several smaller ones varying in size from a lentil to a hazelnut. There was also a triangular, flat, hypertrophic patch with a verrucous surface at the base of the toes at the inner side of the dorsum of the foot. There were also linear scars on the inner side of the same foot adherent to the bone. In addition there were scattered small patches of psoriasis on the back and abdomen.

DR. ABRAMOWITZ reported on a case of supposed bromoderma which had aroused considerable discussion at the last meeting, the patient being a child with lesions on the leg, etc. He said that he had obtained a copy of the prescription given by the doctor who first attended the case, and which the mother said was the only medicine the child had taken in her life. It contained a lot of drugs, but nothing that could cause a skin eruption. Several biopsies had been made from the lesion, but nothing definite was found aside from a chronic inflammatory nature.

### CHICAGO DERMATOLOGICAL SOCIETY

*Annual Meeting, Jan. 16, 1919*

DAVID LIEBERTHAL, M.D., *President*

#### MULTIPLE IDIOPATHIC HEMORRHAGIC SARCOMA. Presented by DR. ORMSBY.

The patient, a man, aged 48, was suffering from a cutaneous disorder of fifteen months' duration, which involved the dorsal surfaces of both hands and forearms and the dorsal surfaces of the feet and legs. The primary lesion was a dark brownish-red nodule which began on the left hand. Very shortly afterward new areas occurred on the right hand and on the feet and legs. At the time of presentation, the hands, feet, legs and forearms were much enlarged and covered more or less extensively with bluish-red nodules and plaques varying in size from a pea to a half dollar. The nodules and plaques were irregularly scattered over the thighs and arms. There were no subjective sensations.

#### DISCUSSION

DR. RAVOGLI thought that on cursory examination the case looked like a possible Kaposi's multiple disseminated sarcoma. It was possible that further study and microscopic examination might change this opinion, but this was his present impression.

DRS. SWEITZER and PUSEY agreed with Dr. Ravogli.

DR. ZEISLER said that he and his father had the patient six months previously, giving large doses of arsenic and roentgen rays and radium locally, without much improvement.

#### PEMPHIGUS. Presented by DR. ORMSBY.

The patient, a man, aged 42, was first seen Oct. 3, 1917, the lesions at that time having been present for two months. They were located on the face, chest and back, chiefly in the center of these areas, and consisted of vesicles, bullae and crusts, the bullous lesions presenting the appearance of an impetigo. Four months later, while the patient was at Hot Springs, the disease suddenly progressed and became a general exfoliating dermatitis. In March, on his return to Chicago the entire skin, including the scalp, palms and soles, was

erythematous and scaling and covered with flaccid bullae. The patient received treatment with baths of potassium permanganate which completely prevented secondary infection for some time. Three months ago, in spite of this treatment, there was a recurrence and the temperature rose to 104 F. Under a continuous water bath for five days the temperature returned to normal.

At the time of presentation, bullae and vesicles were present over the entire body, with a moderate amount of erythema in the intervening areas. The patient had no rise of temperature and was in good general condition, having gained weight during the last six months.

#### DISCUSSION

DR. STOKES felt that in examining a case of this kind, the frequent association of pemphigoid eruption with multiple arthritic diseases and other manifestations of other chronic pyogenic infections should not be overlooked. He had, he believed, seen at least one case that had in the course of four or five months run the gamut of the symptomatology of infectious dermatitis exfoliativa, "pemphigoid," of the type described by Mook in connection with vaccination infections and pemphigus foliaceus.

DR. WILE was inclined to consider the case a borderline one of pemphigus, or dermatitis herpetiformis. He believed there was as much justification for one as for the other. Only by following the case for a long time could one say which of these two conditions it was.

DR. PUSEY believed it was an abortive outbreak of pemphigus. He was of the opinion that while there were typical cases of dermatitis herpetiformis on the one hand and pemphigus on the other, there were borderline cases between the two. But this was not such a case; this was a case of pemphigus with typical bullae. He had seen similar cases with exfoliative dermatitis in patches. He had seen the patient several months previously and at that time it was an extreme case of pemphigus of the flaccid type.

He recalled a case of pemphigus foliaceus that was in the County Hospital many years ago. Everybody saw him and nobody gave a diagnosis of anything but pemphigus foliaceus, but in six or seven weeks the patient recovered. Goldenberg and Highman in a recent study of pemphigus, had made the point that pemphigus was invariably fatal. He was surprised at Goldenberg and Highman's position, for he believed that cases of pemphigus that had been studied carefully by competent dermatologists did sometimes get well.

DR. PARDEE considered it an abortive eruption of pemphigus.

DR. QUINN believed it was impossible to draw a line between dermatitis herpetiformis and pemphigus.

DR. HARRIS thought it belonged to the pemphigus group.

DR. ORMSBY said that there was no itching or burning, and this was very important in that type of case. It began with a typical outbreak of bullae. The chest and back remained ordinary pemphigus for a long time and then for months it was like dermatitis exfoliativa. He was then covered with bullae which were not well distended. The legs were covered with bullae at present, but they did not show very well. The case had been investigated very thoroughly from every standpoint. He was satisfied that it was a case of pemphigus, but it showed how the condition changed at different times. He thought it would eventually prove fatal. The skin had been kept clean with permanganate baths and kept dry with a dusting powder, a method of treatment suggested in general exfoliative dermatitis. The patient had once been kept in a continuous bath for five days, which brought his temperature down and he had improved wonderfully under treatment.

He believed that pemphigus vegetans always terminated fatally; pemphigus foliaceus usually did, but a percentage of pemphigus vulgaris recovered.



DR. LIEBERTHAL said that it was his impression that a well developed case of pemphigus went to a fatal end. In this connection, he recalled a case which showed for a time a few groups of small vesicles, in which the diagnosis of eczema was made. The patient was sent to Mt. Clemens, and he returned improved, but soon after developed a typical pemphigus foliaceus.

**XANTHOMA DIABETICORUM.** Presented by DRs. E. P. ZEISLER and JOSEPH ZEISLER.

The patient, an obese male aged 28, presented an eruption which began on the elbows one year ago, spread to the back, especially the buttocks and legs and later appeared on the face and hands. There was no itching or burning. He had received no treatment until recently when he had been treated by another physician with the Alpine lamp. When first seen, the lesions were solid papules with a red base and yellow summits and were typical of a xanthoma diabeticorum. In two weeks' time the lesions had undergone rapid involution under an antidiabetic diet. Sugar was present in the urine at the first examination.

DISCUSSION

DR. SWEITZER considered it a xanthoma diabeticorum.

DR. RAVOGLI thought there was no doubt about the xanthoma, but he felt that there were two disease pictures because the eruption on the leg reminded him of lichen planus mixed with the xanthoma diabeticorum. He had never seen a xanthoma take this moniliform appearance.

DR. PUSEY thought Dr. Ravogli's point was interesting but he did not agree with his diagnosis. Dr. Pusey thought the linear lesions were very interesting but believed they indicated traumatism and that xanthoma lesions had developed in the injuries. This might account very well for the occurrence of such lesions about the ankles and elbows in ordinary xanthoma tuberosum.

DR. ZEISLER stated that Lebeden had produced xanthoma in rabbits by feeding them cholesterin, and noted that the lesions appeared only in places where the skin was traumatized.

**CASE FOR DIAGNOSIS.** Presented by DR. HARRIS.

The patient, a man aged 40, presented a squamous condition of the hands with hyperkeratotic streaks running down the middle of the palmar surface of the fingers, and an erythematous, scaling, sharply demarcated lesion, beginning at the root of the penis and running down half way. The lesions had been present for 1½ years. There was only slight itching.

DISCUSSION

DR. RAVOGLI believed it to be a lichen planus miliariformis. There was redness and little shiny points grouped together on the wrists, and the keratotic lesions of the palms were those which often accompanied this disease.

DR. HARRIS said that under salicylic and tar ointment the lesions cleared up very markedly. He had not used this for four days so that the lesions could be seen better.

**CASE FOR DIAGNOSIS.** Presented by DR. ZEISLER.

The patient, a man aged 56, complained of a painful swelling of the lower lip which had been present for eight months. The history was negative except for pneumonia, which he had had three times. Examination showed an indurated superficial ulceration of the inside of the lips with a solid induration of the entire lower lip. There was another ulceration on the mucosa of the upper lip near the angle of the mouth and a pocket of enlarged glands in the submental region. The case was presented for diagnosis.

## DISCUSSION

DR. HARRIS said that the man had three lesions in the mouth which were separated by normal mucosa. He thought it was tuberculosis and no carcinoma.

DR. RAVOGLI thought the diagnosis of carcinoma was better.

DR. ORMSBY agreed with Dr. Ravogli.

DR. WILE was inclined to agree with Dr. Ravogli. An interesting feature of the case was the swelling of the lower lip, which was probably in the nature of a lymphangitis. The lesion in the floor of the mouth was a long, irregular fissure which looked like carcinoma.

DR. PUSEY thought there was no question that the man had a carcinoma of the mouth and that the hypertrophy of the lips was due to an obstruction of the lymphatics. He believed it was an absolutely hopeless case from every standpoint. The man should be made as comfortable as possible, with narcotics if necessary, and the mouth should be kept clean. He thought that neither radium nor roentgen rays would do any good in this case, either in large or small doses. The man was absolutely doomed and the case should be so recognized. He believed it was possible to have three carcinomas in the mouth.

DR. SWEITZER believed it was an infection of some kind. He did not believe that it was carcinoma.

DR. ZEISLER said he would make a copy and then institute appropriate treatment. If carcinoma was present he thought it was not a case for operation but that radium treatment might prove beneficial, although many cases with tongue and mouth carcinoma did not do well on radium treatment.\*

DR. LIEBERTHAL said that the diagnosis should first be established and, if the case proved to be one of carcinoma, radium in large doses should be tried.

DR. HARRIS said the man had three distinct ulcers all separated by normal mucosa. Multiple carcinoma of the inside of the mouth might occur, but was distinctly unusual. He called attention to the fact that the lip was soft, and not hard as in carcinoma, also an ulceration an inch from the submental gland would cause an enlargement of that gland.

## URTICARIA PIGMENTOSA IN AN ADULT. Presented by DR. HARRIS.

A man aged 32 had an eruption on the body which had been present for five years, and which was said to have come out at once. There was no disturbance except some itching when warm. The eruption was composed of reddish brown maculo-papules, shot to pea size, was scattered over the trunk and adjacent parts of the extremities and some on the face. The lesions were very slightly elevated and there was no scaling. On irritation there was distinct elevation.

12-11-19

## DISCUSSION

DR. SWEITZER thought the diagnosis lay between urticaria pigmentosa and parapsoriasis.

DR. WILE suggested that the case was one of urticaria with pigmentation.

DRS. AUNER and ORMSBY agreed with Dr. Sweitzer.

DR. PUSEY did not see anything in the case to suggest urticaria pigmentosa. Assuming that the history was correct, he believed it was a punctate parapsoriasis in very minute lesions.

DR. HARRIS considered it an urticaria pigmentosa.

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\* Subsequent note: Biopsy showed a solid tuberculosis of the lip. Tubercle bacilli were found in smears from the ulcers and in sections. The case will be reported in full later on.

## LESION ON HAND, FOR DIAGNOSIS. Presented by DR. QUINN.

The patient, a man aged 48, presented a disorder which had been present for one year. There were three growths on the ulnar surface of the hand. A skin-grafting operation had been performed, but the lesions progressed until there were at least eighteen extending unsymmetrically up the forearm, with several split-pea size lesions on the dorsal surface of the left hand and some on the left foot. The patient gave a history of syphilis twenty-four years ago, with surgical removal of buboes. Five years ago he had necrosis of the nasal bones which was also treated surgically. There was a lipomatous growth over the whole body.

## DISCUSSION

DR. RAVOGLI considered the case one of sarcomatosis.

DR. McEWEN agreed with Dr. Ravogli.

DR. AUNER had thought that it was a melanoma, but all of the lesions were not pigmented so he must be wrong.

DR. PUSEY was not sure that it was sarcoma. He had seen multiple metastatic malignant growths of the skin which were very like sarcoma but which turned out to be carcinoma.

DR. SWEITZER stated that Dr. McCarty of the Mayo Clinic had investigated a number of these cases and found that they were melano-carcinoma.

## MYCOSIS FUNGOIDES. Presented by DR. HARRIS.

The patient was a female, aged 64. The disorder had been present for about three years and began as a patchy erythema of the face and body with a marked tendency to scale; shortly afterward the hair began to fall and at the time of presentation, she was almost bald. Many of the erythematous areas became somewhat infiltrated and two had ulcerated. Itching had been present but not severe.

## DISCUSSION

DR. SWEITZER thought it was mycosis fungoides clinically and the specimen which was shown verified this diagnosis.

DR. RAVOGLI believed it was the prefungoid stage of mycosis fungoides.

DR. PUSEY saw in the case an old lady who had a universal—not a partial—exfoliative dermatitis of long standing with ectropion on both sides, with almost complete loss of hair and eyebrows and lashes. He did not know that mycosis fungoides began as a universal exfoliative dermatitis, that continued long enough to produce ectropion without tumors developing. He had thought at first that the old lady had a case of Hebra's disease, but the little lumps gave him another suggestion. Hebra's disease was a clinical entity and often turned out to be pseudo-leukemia or leukemia, and he believed this to be the patient's condition. He thought it was a generalized exfoliative dermatitis, probably of leukemic origin.

DR. McEWEN said that he had observed a case of mycosis fungoides which had been preceded by exfoliative dermatitis. The patient had been under treatment for a generalized exfoliative dermatitis for a considerable period and had passed out of view for several years; when seen again typical lesions of mycosis fungoides were present. He was interested in the alopecia in the case under discussion: Was it a part of the disease or a separate thing?

DR. ORMSBY had seen several cases of mycosis fungoides with complete alopecia and believed it was part of the process, as were the other conditions which the patient exhibited.

DR. WAUGH agreed with Dr. Ormsby.

DR. OLSON was of the opinion that the slide which was exhibited, when carefully studied, showed the difference between mycosis fungoides and leu-

kemia. Under low power, they seemed to be of the pure lymphoid type, which signified leukemia and not mycosis fungoides.

DR. QUINN thought that mycosis fungoides was likely to follow after any itching dermatitis and that this case had reached the prefungoid stage.

SARCOID. Presented by DR. ORMSBY.

The patient, a woman, aged 49, had suffered for five years with a cutaneous disorder which was limited to the face. In January, 1917, when first examined, the patient stated that in the beginning there was a slight thickening on the inside of the nose. Two years later redness occurred on the outside. There were no sensations, and no other lesions. Treatment had been given with roentgen rays and the nasal mucous membrane had received treatment by a specialist in that department. At that time there was a moderate amount of erythema and telangiectasia on the right cheek, with a suggestion of beginning thickening. The changes were nearly imperceptible. The patient was certain that changes were beginning in the left cheek, but they were so slight as to escape any but the closest observation. Very little treatment had been given since 1917. At the time of presentation, on the right side of the face, extending from the malar bone to the nose, there were deep plaques and nodules attached to the skin, but freely movable. There was little change in the color but fairly marked telangiectasia was present. A similar condition, less marked, was present on the left cheek. The skin of the nose was covered with telangiectatic vessels and a small nodule was present on the end of the nose. The mucous membrane appeared to be normal. There were no subjective symptoms.

#### DISCUSSION

DR. WILE was much interested in the case and thought it represented a typical sarcoid tumor. He thought in view of the findings in most of the sarcoid tumors and their probable relation to tuberculosis we should discard the term sarcoid for them, and perhaps call them—as they previously were called—benign “lupoid.” There was a great deal of resemblance in these cases to lupus vulgaris, except in the absence of ulceration and necrosis. In this particular case, the nodules were firm, they were discrete and on pressure with the diascop, the brownish minute nodules described for sarcoid were visible. The therapeutic test, in that the lesions involuted or disappeared on the thorough administration of intensive arsenic therapy, was very characteristic. He understood that Dr. Ormsby intended to subject the patient to this test.

DR. OLSON thought that arsphenamin treatment of sarcoid brought about improvement, but was not satisfied regarding the permanent cure.

DR. SWEITZER was much interested in the case because in the past he had studied two or three sarcoids and had had a very unfortunate experience therapeutically. Because of the claim that intensive arsenic treatment would cause regression of the symptoms he had used it. One case in the University Hospital had received very intensive treatment with no result; a second case had very intensive salvarsan with no result, but a clinical result was obtained with carbon dioxid snow. He had read that Howard Fox and Wise had used that method of treatment and thought the best result was obtained by freezing. In certain forms of tuberculosis they did not get good results with arsenic and he did not get it in his cases.

If a change in nomenclature was contemplated he believed tuberculosis cutis of the type of Boeck would be a good name. Sarcoid looked like lupus but was not lupus, and what they had studied looked as if it were definitely tuberculous in nature.

DR. ORMSBY said that at the American Dermatological Association in 1914 he showed a case of sarcoid like this one, but at that time the arsenic treatment was fairly new. He used it for three or four months without result, but persisted in the treatment and the patient's condition cleared up within a



year. He believed the value of the treatment was not so much in its intensive character, but in its long continuation. Since then he had seen a similar case which also cleared up, and he believed this one would. In his opinion the characteristic thing about the case was the deep nodules, the plaques and nodules being not only cutaneous but subcutaneous. On the right cheek was a very large plaque which seemed at least half an inch deep. All the lesions were well defined.

#### LUPUS VULGARIS. Presented by DR. STILLIANS.

The patient, a German woman, aged 63,\* had had a lesion on the face for fifteen years, while those on the arm and chest had been present for three years. There was pronounced enlargement of the hand in consequence of the involvement of the forearm, and the arm had been amputated a few months before presentation. Her health improved greatly after the amputation, but the stump of the arm was the seat of a subacute infection. On the left cheek was a large lesion which consisted of soft nodules covered with crusts and arranged in a patch, part of which was scarred, the scar being thin and soft. A smaller patch similar in appearance was seen over the right clavicle. On pressure over these nodules a distinct brown color remained.

A photograph of the patient before amputation of the arm was exhibited.

#### DISCUSSION

DR. RAVOGLI thought from the clinical appearance of the face that it showed a form of tuberculosis of the skin that used to be called "scrofuloderma." The condition of the arm might be produced by tuberculosis in the same way and the enormous swelling due to a myxedematous condition was the result of the blocking of the lymphatic vessels through the tuberculosis. In his opinion it was a form of scrofuloderma.

DR. WILE agreed with Dr. Ravogli.

DR. HARRIS thought the arm looked like tuberculosis and that it was a form of tuberculous osteomyelitis.

#### CASE FOR DIAGNOSIS. Presented by DR. HARRIS.

The patient, a woman, aged 45, presented shot size itching papules of the forehead and scalp of three years' duration. There was also a weeping dermatitis in the ears which would clear up and recur.

#### DISCUSSION

DR. SWEITZER thought it was a case of acne varioliformis.

DR. PUSEY was not sure that the condition was acne varioliformis; he could not see much evidence of central necrosis. He thought it might be an acne and seborrheic dermatitis.

DR. RAVOGLI said that there were small pustules and some of them showed a tendency to necrosis. He was not opposed to calling the case acnitis or acne varioliformis.

DR. McEWEN agreed with Dr. Ravogli.

DR. HARRIS considered it a case of acne varioliformis. No necrotic lesions were visible at present, but he had found them. There was only very faint scarring.

#### TOXIC ERUPTION. Presented by DR. ORMSBY.

The patient, a man, aged 40, had suffered for three years with a recurrent cutaneous eruption. The interval between attacks averaged six weeks. The earliest lesion was noted on the forehead. In the different attacks the arms,

forearms, trunk, thighs and legs had been involved. \*The lesions had been present for fifteen days at the time of presentation. They were situated on the areas above noted, the most conspicuous being on the trunk. The lesions were brownish-red, but were of a lighter shade in the beginning. They varied from dime to palm size and larger. There were no subjective symptoms.

## DISCUSSION

DR. HARRIS thought it was a case of urticaria with pigmentation. He had not seen the early lesions, but those that were exhibited at present looked like this disease.

DR. SWEITZER said he had seen a case in New York that was a toxic erythema and was very similar to this clinically. He was much interested because he had never seen any before that were like them. The patient stated that the lesions came and went.

DR. RAVOGLI was much interested in the cause of the extended pigmentation in these cases, and found that they had some connection, probably, with past syphilis. He thought the patch around the neck was very suspicious; it was probably due to an attack on the adrenal glands. It might be a morphea, but this was often related to past syphilis. He felt that antisyphilitic treatment would probably relieve the condition.

DR. ORMSBY stated that he saw the patient ten days previously during an acute attack. At that time there were large lesions which were rather red and plaque-like with a good deal of infiltration. There was a history of recurrent attacks, the early lesions being rather red and itching and subsiding in a few days, leaving pigmentation. That was the history of some toxic eruption. He was interested to hear Dr. Miller say that a patient in the hospital had similar lesions after receiving arsphenamin, and that was in line with the cases seen in New York. He believed it was some toxic eruption, but it was evidently not very common. There was no history of drug taking.

## CASE FOR DIAGNOSIS. Presented by DR. McEWEN.

The patient, M. L., aged 41, showed face and ear lesions consisting essentially of continuous, sharply defined, reddish-brown infiltrations, somewhat elevated, slightly crusted in places, and showing some atrophic scarring. One large lesion involved the nose and the adjacent cheeks and the upper lip; another covered the shell of the left ear. When first seen two months before, the lesions were much more active and were plentifully covered with pus crusts; the nose was large and bulbous, and the upper lip greatly thickened. In addition to the skin trouble, the patient complained of hoarseness; she had not spoken above a whisper for a year. The history was as follows: Hoarseness began about two years ago and was attended with sore throat; in April, 1918, she noticed a "pimple" upon the left side of the nose, which persisted, slowly increasing in size until the present dimensions were reached. A little later a similar "pimple" appeared on the left ear, followed by a like spreading. Venereal history was denied; she was said to have had "scrofula" at 9 years. She had been married eight years, and had had one pregnancy which resulted in a miscarriage, not induced. One brother died of tuberculosis. Examination showed lungs, abdomen, genitalia and reflexes negative except for the absence of the uvula and some scarring of the palate. The substernal dullness showed some increase; faint pulsation with thrill could be felt in the upper sternal region; the pulse was irregular, the right being the stronger, the left scarcely perceptible. The blood Wassermann was negative; also the spinal fluid showed no abnormality. The epiglottis, cords and arytenoids were diffusely infiltrated, without scarring, nodules or ulceration. Scars were present on the pharynx and palate, indicating previous ulceration and suggesting a possible congenital

syphilitic infection; the vocal cords moved fairly well; the cough was probably due to aneurysm. A biopsy showed many giant-cells, some of them very large; there were no definite tubercles.

The case was considered syphilitic at first and was treated vigorously with potassium iodid; four doses of arsphenamin were given. There had been a very marked improvement in the skin condition.

#### DISCUSSION

DR. SWEITZER thought the clinical appearance was that of tuberculosis.

DR. PARDEE considered it an unusual case of tuberculosis, and thought a biopsy would show the tubercles under the skin. He had a similar case two or three years ago in which there was no disturbance of the voice and in which there were no signs of lupus vulgaris. Under the microscope the condition was seen to be typical tuberculosis, and the case was eventually recognized as tuberculosis of the skin.

DR. RAVOGLI was of the opinion that a laryngoscopic examination would probably clear the diagnosis. He thought the patient had a tuberculous laryngitis with destruction of the vocal cords, which explained the aphonia. He believed the condition of the face was due to local tuberculosis and was not opposed to calling the condition lupus erythematosus of the face, making the distinction between lupus erythematosus affecting the simple papillary layer and the lupus vulgaris affecting the corium in the form of deep ulcers.

DR. PUSEY was much interested in the discussion because he doubted the diagnosis. With the very much enlarged nose, the scarring and an aortic aneurysm shown by the roentgen ray there was pretty good evidence of syphilis, even with a negative Wassermann—just about as good as if there were a positive Wassermann. The end of the nose looked to him like a syphilid. The lesion on the face might have been a plaque of syphilis which was subsiding. He did not think it was a lupus. The aphonia might be due to a syphilitic laryngitis or the aneurysm, as well as to tuberculosis.

DR. MICHELSON thought the argument was against syphilis because it had not cleared up under treatment, but that the diagnosis of aortic aneurysm would certainly indicate constitutional syphilis. This diagnosis would have to be verified.

DR. HARRIS had thought it was a syphilid at first, but it had not cleared up after five arsphenamin treatments, and had improved somewhat on wet dressings. The area was covered with small superficial pustules, and he believed the whole thing was a pus infection.

DR. SENEAR thought the diascopic examination showed some nodules which were strongly suggestive of lupus vulgaris. They had the color and appearance, although they were not very well defined, and he believed this, together with the lack of response to syphilitic treatment, was indicative of a tuberculous origin.

DR. OLSON considered the case syphilis in spite of no response to arsphenamin treatment.

DR. QUINN thought the case showed some improvement, and that the arsphenamin had probably done something. There might be tuberculosis also.

DR. McEWEN thought the statement that the woman had not improved under treatment was wrong; he considered her much better than she was two months ago. A photograph taken when she entered the hospital showed a much worse condition, and he regretted that this picture was not at hand to show the members. There were some features of the case which argued against syphilis, but he did not feel that the diagnosis of tuberculosis was without objection. He considered the short duration of the skin lesions, the scars in the throat and the presence of an aortic aneurysm as strong evidence for syphilis. If the



diagnosis of tuberculosis was correct, it would be admitted that antisyphilitic treatment had proved very beneficial for a nonsyphilitic condition.

#### LESIONS ON HANDS FOR DIAGNOSIS. Presented by DR. McEWEN.

The patient, Jewish, aged 45, had been presented before as a patient with persistent dermatitis of the hands that had appeared eight years before while working as a cloth cutter (neckties). The condition had been relieved several times but recurrence always followed. The roentgen ray had been used in the treatment. About two years ago he changed his work to that of polishing coca-bola wood handles, which change was promptly followed by the development of a generalized dermatitis. This was relieved except for the involvement of the hands which had persisted, the hands showing a dry, scaling, infiltrated and pruritic dermatitis occupying practically all skin surfaces. There was present a marked tendency to thickening and contracture of the palmar surfaces and it was on account of this that the case was shown. This contracture did not seem to be related to the previous use of the roentgen ray.

#### DISCUSSION

DR. PUSEY thought that Dr. McEwen was most concerned about the atrophy of the hand and contraction, and believed this could be explained by the long continued dermatitis. He had a photograph of a farmer in which there was a marked contracture in dermatitis repens of long standing. In his opinion the sclerosis of the skin was sufficient to account for the flexion. He thought it was an external irritation dermatitis. The speaker thought it was surely not a roentgen-ray atrophy of the palms. If there was a roentgen-ray contracture of the palm there would be with the atrophy other evidence of roentgen-ray keratoses and telangiectasis. Compared with other cases of roentgen-ray palm he had seen, he would say this was not roentgen-ray hand.

DR. HARRIS stated that the patient had been in the County Hospital for a year and had shown no improvement.

DR. SENEAR said he had had a similar case during the past year and he agreed that it was due to the occupation. He had seen a similar case with Dr. Wile; there was the same chronic dermatitis and the same atrophy and contraction took place.

DR. SWEITZER thought Dr. Pusey's explanation was very good but there was a history of roentgen-ray treatment in the case, and he wondered if he might have been over-treated.

DR. McEWEN thought the man was in a rather unfortunate condition and regretted that dermatologists were so much in the dark relative to such dermatoses both as to cause and treatment.

DR. LIEBERTHAL suggested that the ultraviolet ray be used as he thought it surely could do no harm.

#### CASE FOR DIAGNOSIS. Presented by DR. HARRIS.

The patient, a negro porter, aged 24, presented a small sore on the glans penis which had appeared while at Camp Grant in August, 1918. The primary lesion gradually grew and others appeared. There had been nothing on the rest of the body except a blister-like spot on the inside of either thigh above the knee which had appeared about three weeks before presentation and had lasted only three days.

Biopsy showed marked round and plasma-cell infiltration; no leukocytes.

#### DISCUSSION

DR. MICHELSON thought the case was very interesting because of the extensive destruction. He had seen a number of cases of this kind in which the



dark field had been repeatedly negative and the Wassermann test persistently negative, also showing no Vincent's organisms, and he thought certain types of penile sores could not be diagnosed.

DR. OLSON said that some similar sores spread out over the skin up to the pubes and looked like tropical ulcer. Some claimed it was simply a very virulent or chronic form of chancroid due to the bacillus of Ducrey.

DR. QUINN thought it was a chancroid or a mixed infection between chancroid and syphilis.

DR. McEWEN considered it an example of the destructive penile lesions which so often occurred in the negro. Apparently the colored race had very little resistance to certain organisms.

DR. HARRIS said he had presented the case for diagnosis. He did not think it was chancroid and did not know what it was. He took a biopsy and it showed chronic inflammation, no leukocytes; plasma cells and round cells were present. It looked to him like a syphilid. The man had had no treatment.

DR. LIEBERTHAL suggested the use of the continuous bath.

#### KERATODERMIA. Presented by DR. ORMSBY.

The patient, a man aged 35, had had the disorder two and a half months. The lesions were limited to the palms and soles and the patient stated that the trouble followed influenza. The first change in the skin was erythema with a well-defined margin. On the disappearance of this the patient noted that the skin was greatly thickened.

At presentation the entire palmar surface of the hands and fingers showed diffuse thickening, the epidermis being yellowish with an underlying dark red color.

There were no subjective symptoms.

#### DISCUSSION

DR. RAVOGLI considered the case hard to diagnose without following and studying it for some time. From the peculiar keratosis and some little hardening of the follicles on top of the fingers he thought it might be considered a pityriasis rubra pilaris in the early stage, and believed the case should be kept under observation.

DR. McEWEN agreed with Dr. Ravogli, and thought these cases of palmar lesions always suggested the possibility of some unrecognized source of arsenical poisoning.

DR. QUINN thought the condition was quite acute and might be due to some toxic infection. He did not believe it was a case of pityriasis rubra pilaris.

DR. OLSON thought it was an acute erythema following antipyrin. He believed this drug caused follicular lesions, but was not certain. It was known to cause a number of different skin lesions.

DR. SWEITZER was inclined to agree with Dr. Ravogli.

DR. PARDEE thought the cases which showed distinctly terminal inflammation on the palms, soles and backs of the hands could frequently be referred to focal infections and had on one or two occasions found that the infection originated in the gallbladder. By draining the gallbladder and removing the focal infection rapid improvement was secured.

DR. ORMSBY said he had thought of pityriasis rubra pilaris, as Dr. Ravogli suggested, but had seen this develop before and when the development of the hyperkeratosis was as marked as in this case there were other signs of the disease. One of the earliest was a seborrheic dermatitis over the nose and in the scalp, and this was absent in the present case. He was not sure there was any follicular involvement, and thought the man's work had nothing to do with it. He was a laboratory man but did not handle chemicals with his feet. In Dr.

Ormsby's opinion it was a toxic condition that would clear up within a few weeks, and the hands would become normal.

DERMATITIS HERPETIFORMIS. Presented by DR. ORMSBY.

The patient was a little girl who had been presented at the November meeting and was shown at this time to demonstrate the different appearance of the lesions at various times. She had suffered a relapse three weeks previously, at which time the lesions were very like those of erythema multiforme.

DISCUSSION

DR. ORMSBY thought the greatest bone of contention was to differentiate between erythema multiforme, dermatitis herpetiformis and pemphigus. This patient presented all three of these pictures at different times and on presentation was a typical case of erythema multiforme. She was presented again merely to show that there was good reason for disagreement among medical men in placing an individual case properly.

DR. HARRIS asked about the lesions on the trunk and extremities as she had presented great numbers of these at one time.

DR. STOKES thought that the question should be raised as to whether this was not a toxic eruption or trichophytid of the type described just before the war by Guth from Jadassohn's Clinic, in the *Archiv für Dermatologie*.

FAVUS. Presented by DR. STILLIANS.

The patient, a schoolgirl, aged 10, born in Chicago, had an eruption of the scalp which had been present for two years, following an attack of diphtheria. There was no history of infection. The scalp was covered by a mass of scales that matted the hair together in places. Over the right temple were many small, round crusts, yellowish in color, concave on top and convex below where they set into a depression in the skin, which bled on removal of the cup. On the chest and back were a few indefinite, scaly patches which were slightly reddened and had been present for at least several weeks. A microscopic preparation showed mycelium and spores in the crusts.

DISCUSSION

DR. LIEBERTHAL thought some of the lesions on the body might have been remnants of favus.

DISCUSSION OF FURUNCULOSIS

DR. LIEBERTHAL, in opening the discussion, said this practical subject was of interest because it was on the borderline of surgery and dermatology. The public preferred to call on the dermatologist for the treatment of boils in expectation that these specialists caused less pain and used more conservative methods. It was not necessary to dwell at length on the resistance of the skin to the staphylococcus; there were staphylococci found on the skin which were not indifferent and entered the latter when the continuity of the same was interrupted by slight injury. On the other hand, the staphylococci might appear in the skin secondarily from within from the various foci of infection—pyelitis, enteritis, proctitis, etc., being from there absorbed and carried through the blood stream to the surface. The clinical picture was rather definite in each. If the furuncle developed from without, it was usually quite pointed and confined to the hair follicle and its immediate surroundings, representing a folliculitis and perifolliculitis. The furuncle from internal causes for instance, as seen in infants afflicted with enteritis, was at first perfectly flat, gradually became rounded, and the skin covering the same looked normal or slightly reddened. It was independent of a follicle but developed in the subcutaneous layer. The furuncle from internal causes was usually multiple. The development of

furuncles from either cause was enhanced by various affections tending to lower the general condition of the patient.

In the treatment, the latter point would have to be as much considered as the measures to be taken to remove directly, the internal cause. The local treatment naturally was most interesting at present. The question was, Should a furuncle be treated surgically? Yes, in cases where it was located in the face or with which a lymphangitis had developed, indicating in the latter instance streptococcic action, or in which considerable rise of temperature occurred. The same procedure was advisable in multiple furunculosis from internal causes.

In the furuncle developing from without, the conservative treatment was the rational one. This furuncle was limited and must be isolated to protect other parts from infection. The next step was the direct treatment to relieve pain and pressure. Various means were employed to accomplish this end, such as alcohol or ointment dressings, etc. As soon as softening had occurred, wet dressings were the best application until the abscess was evacuated and complete healing had taken place. During all these procedures, the surrounding healthy skin was to be protected by a covering of a bland ointment.

He believed it was wrong to treat a furuncle with long incisions. This procedure caused undue excitement of the patient, opened up soil for the development of new furuncles and led to disfiguring scars; and in patients afflicted with diabetes there was danger of such a wound becoming gangrenous. When pain and pressure were intense and other indications for surgical treatment were present, it was best to use the thermocautery or electrocautery.

He cited briefly the internal measures recommended in the treatment of furunculosis. Yeast had been used for a great many years; he did not know the mode of action of the yeast in the treatment of furunculosis. Iron and arsenic and other similar preparations had no direct effect on the furuncles but tended to improve the general condition which was frequently below par. In conclusion, he mentioned the employment of vaccines about which, also, he hoped to hear the opinions of the various members present.

DR. PUSEY said that when the question concerned treatment of a single furuncle he felt fairly comfortable; he opened it and it became well. He thought a point worthy of consideration was the use of a very fine sharp knife, a cataract knife, in order to make the pain as slight as possible. With such a knife you could open the furuncle with such trivial pain that little was gained by freezing the lesions. He believed that nothing was gained by making a wide or a crucial incision; a small incision should be made, one that reached the cavity, provided drainage, gave relief from tension and was relatively painless and left a good scar. He applied usually a wet dressing of 50 per cent. alcohol. He washed the adjacent parts twice daily with mercuric chlorid solution one to one thousand, and greased them with ammoniated mercury ointment; these were used to try to prevent other boils.

The problem of furunculosis that interested him was presented by the patients who had one furuncle after another for a long time. He had used, he thought, most of the methods of specific treatment that had been recommended; twenty years ago he used calcium sulphite, then brewer's yeast, later vaccines and then yeast again. He imagined that since the recent articles extolling yeast, myriads of cakes of baker's yeast had been eaten to cure furunculosis. He was very much in doubt if any of these specific methods of treatment were of any value. Certainly he had no faith in vaccines judging both from his experience with them in which was considerable pus infections in the skin, and on *a priori* grounds; for if there was anybody who was making enough antibodies to get along without the help of their supply from the outside, it seemed to him it would be the man who had a large flourishing boil working on him.

In some of these cases there were rational indications to be met, particularly anemia and other evidences of lowered vigor, and of course where these



existed they should be looked after. In many cases, however, no indications would be met and he did not believe the most painstaking examination would find anything wrong in the general health. He would see these cases of recurrent furunculosis in young huskies who were just home from a vacation, in whom boils had started probably from a dirty sweater, who were as good examples of vigorous health as could be seen, and in whom the painstaking examiner, if he found some recondite defect in health, would probably find something that was not so. Such boys sometimes grew boils after they once started just as a good lawn grows dandelions after they once get established, and it is very difficult to get rid of them.

He thought that persistent attention to cleaning the skin was one of the most useful things that could be done—bathing in a weak bichlorid solution, bathing the folds of the body, the neck or any other part for which the boils showed a predilection, in 1:2,000 bichlorid or in 60 per cent. alcohol, and greasing with ammoniated mercury ointment. The use of ammoniated mercury ointment over weeks or even months had seemed to him one of the most useful local measures. For recurrent boils in one area, as the neck or axilla, he had found the use of roentgen rays definitely valuable in preventing their recurrence.

DR. WILE was much interested in the previous remarks. Obviously there were certain types of furuncles which everybody could cure readily, other types got well under indifferent treatment, and notwithstanding one's best efforts some did not get well under any type of treatment.

He felt that he must take issue in decrying the use of iron and arsenic in some types of furunculosis, especially in the type that was recurrent. A patient could get one or two boils possibly and remain well, but not a series without becoming decidedly below par. He thought the tendency to see patients in an ambulatory way was to subject them to nothing other than a cursory general examination. He had learned that the ordinary examination of urine made in the office with Fehling's solution without being able to find sugar was no assurance that the patient did not have diabetes. He did not think a patient could get recurrent furuncles and remain healthy. The skin is protected against infection—there is a balance of control between the organisms on the skin and the skin itself. Infection apparently upsets that balance. The first boil sensitizes the patient and brings down his resistance.

In his opinion the treatment of furunculosis of the obstinate type is not a condition for the dermatologist, as carried out today, nor for the surgeon, but for the careful internist. He felt that such cases would get well much more rapidly if carefully investigated for other illnesses of a mild type. Chronic infections of the genito-urinary and gastro-intestinal type were among things that had been brought to light when these cases had been referred to the internist and they had cleared up under proper attention. Drugs were undoubtedly of some use in conditions of this kind. The existence of the infection over a long time predisposed to anemia and iron and arsenic were good drugs in connection with that disorder.

In connection with the bath which Dr. Pusey had recommended, a number of cases of furunculosis occurring, for instance, following typhoid fever or in cachexia were often well treated by the continuous bath. The infection did not seem to take place in water that was continually running. In a few cases of cachexia, in which local measures and surgical means had failed, the proper treatment by the internist and the continuous bath had served him very satisfactorily.

DR. RAVOGLI had always considered the furuncle as a local phlegmon of the skin produced by the staphylococcus, more often by *Staphylococcus aureus*, which found its way in the by-ways of the skin, in the hair follicles or sebaceous glands. This is in contrast with the carbuncle, in which staphylococcic infection finds its way in the subcutaneous connective tissue. The infection from the intestines might be transferred from the intestinal tract to the



skin and cause furuncles, but he considered the condition more usually resulted from local infection from the skin itself. Once in his younger days while he was in the army, he had furuncles where the straps rubbed against the skin. Another time he was treating a case of diffuse eczema and the patient accidentally scratched his hand with his fingernails, and he had a group of several furuncles that kept him away from his work. We called it furunculosis when there were many furuncles but he thought this was easily explained by the pus being accidentally carried from one part of the skin to another and in consequence produced new infections.

In the treatment of furunculosis he obtained good results by opening them, as Dr. Pusey said, with a small bistoury, giving in this way some freedom to the tissues, diminishing the tension, and then covering with hot water or with a plaster of ichthyol and diathylon. This kept the furuncle entirely separated from the other parts of the skin and caused the core to come out pretty nearly by itself. He was sure that in this way he got his best results. He had seen calcium sulphid given without results, and also yeast, but had obtained good results from quinin and iron tonic in improving the general condition.

DR. STOKES felt that a certain amount of emphasis might be cautiously placed on the etiologic interchangeability of various types of eczematoid dermatitis and furunculosis, a contention very well illustrated by Dr. Ravogli's experience in developing a furuncle at the site of a scratch inflicted by an eczematous patient. At the risk of being classed among the *post hoc propter* clinicians he wished to stress the point already mentioned by Dr. Wile with reference to the possible effect of other chronic infections than those specifically involving the skin. In particular, he believed that chronic tonsillar and apical infections had a decided influence in sensitizing the skin to invading organisms and sources of external irritation. External or exciting causes might vary widely in the individual, but the underlying, sensitizing factor, in the form of a focal infection would appear in a large percentage of them. He had, for example, been repeatedly impressed with its influence on the healing of chronic ulcers and wounds. Following the extirpation of accessible foci, striking improvement not attributable to other factors had been noted. Much of the misconception of the relation of chronic systemic infection to dermatoses arose, he believed, from an effort to interpret the chronic or focal infection as the literal and direct rather than the predisposed and indirect cause of a dermatosis. As having a slight bearing on this question, he ventured to cite the idea occasionally broached by those who are watching Dr. Rosenow's work, that there are seasonal and geographic variations in the virulence of various types of organisms and that this might be a factor in explaining epidemics of furunculosis, erysipelas and pyogenic infections which appear seemingly from a clear sky and disappear without anyone having been able to convince himself that therapy or individual resistance had had much to do with the matter.

DR. HARRIS spoke of the influence of diet in these cases. It had been demonstrated several times that there was a marked increase in the blood sugar. It was his custom to put such patients on a low carbohydrate diet. There were two tendencies—one, to open the furuncle with a small incision in order to make the scar as small as possible, and the other, to open it widely. In his opinion when the boil was opened with a small incision or not at all the results were worse than when one made a crucial incision. If the crucial incision was made early the remaining scar was usually small and insignificant.

DR. PARDEE suggested one small addition to Dr. Pusey's use of the very small knife—the use of the vacuum cup, which would sometimes evacuate a furuncle without any particular pain to the patient, evacuating the entire contents and leaving little or no scar. He had used this, particularly on children, with very good results.

DR. SENEAR said that he also had the question of diet in mind because he recently read an article written some time ago by Lassar in which he laid

emphasis on the effect of the entidiabetic diet, and brought out the fact that this diet produced a considerable improvement immediately in furunculosis; with a strict antidiabetic diet Lassar had been able to clear up the eruption without other means, although he, of course, resorted to arsenic internally and used strong salt baths and general baths with a view to stimulating the lymphatic absorption, and gave brewer's yeast or one of the more easily obtainable preparations in large doses as well. The speaker had hoped that the treatment with colloidal manganese would also be brought out by some one who had tried it. He had seen McDonagh's original article in which he considered the question of attempting to treat various dermatoses by increasing the amount of oxidation or reduction in the body. McDonagh had obtained good results with colloidal manganese, and in marked cases had cleared them up within three days. This was so much better than anything we had ever dreamed of that he thought the idea was worthy of consideration at least. He asked whether anyone present had had any experience with the colloidal manganese injections, and thought this treatment presented an interesting possibility inasmuch as the results had been reported to be good in many instances in McDonagh's experience.

DR. SWEITZER had hoped to hear something that would enable him to treat boils better than he had treated them in the past, but so far had heard nothing that had helped him a bit! There had been some glittering generalities, but nobody had presented anything new.

In his opinion a single boil would get well by itself. If boils persisted in recurring for seven or eight years, one would have to assume that something was the matter and should examine the urine and make a careful general examination. Some patients received the very unusual treatment of having the boil cut out. Considerable had been said about opening the boil with a small incision and leaving a small scar, but a very good way to get a big scar was to cut out the boil. He very seldom opened a boil because it had a necrotic plug, and if opening did any good, it would open itself; if it were not ready to pour out the pus, the opening would do no good.

He disagreed with Dr. Pusey in regard to the vaccine treatment and still adhered to that therapy. He preferred the stock vaccine, beginning with 250,000,000 and going up 50,000,000 a time to 400,000,000. Locally he used 1:2,000 sublimate-alcohol half a day and the other half, ointment of ichthyol or mercuric ammonium. Some boils would readily yield to this form of treatment if they were not due to diabetes.

As to focal infections, he had learned to look for focal infection around the teeth, especially in boils on the face. Very often roentgenograms revealed abscessed teeth and on removal of the teeth the boils got well without any further treatment. He believed if good vaccine was used, results would be obtained. He had one patient who was a football player who had boils on the back of his neck for eight years. After two injections of vaccine he had no more boils. He had also reduced his diet.

DR. QUINN stated that almost every case of acne and boils that he saw had been treated with vaccine, but he thought the results amounted to very little. He had tried the vaccine therapy on about fifty cases at the Rush dispensary and only about two cases in this series had any results. He treated boils by opening them with a knife, swabbing them out with iodine and letting them go at that. He thought that when vaccine treatment was used in connection with antiseptic measures, the good results were to be attributed to the antiseptics rather than to the vaccine.

DR. McEWEN was glad to hear the subject of focal infection mentioned, for he considered this a frequent cause of furunculosis. He had had a case in point under observation over a long period. Several years ago this patient had a disturbance in one knee; an arthritic affair which directed attention to the teeth. These were roentgenographed and eleven infective foci were found. The teeth involved were removed, cultures were made and a vaccine prepared

in which *Streptococcus viridans* was the main organism. Under its use the arthritis practically disappeared. Something over a year later there was a slight recurrence, the knee becoming irritable at times but never to the former degree. Twelve months ago a felon appeared on a thumb; this was followed shortly by a carbuncle on the neck; then began a series of boils and carbuncles on various parts of the body. These would appear singly, with a free interval between them, and as they evolved the patient would become distinctly cachectic. The greatest care was taken constantly to prevent finger conveyance of the infection. Each attack was preceded by an exacerbation of the knee condition and each lesion was necrotic rather than pustular at the onset. A further investigation of the teeth was made which showed two root apices infected, and a possible source of infection was found in one tonsil. With the elimination of these foci, the furuncles had ceased to appear. The pathogenesis in this case seemed to have been as follows: Periodic showers of *Streptococcus viridans* would flood the system causing a lighting-up of the knee trouble and producing a general toxemia; at some point in the skin an embolus would occur of sufficient size to occlude the circulation and to give rise to a small focus of necrosis that would shortly become secondarily infected with the ordinary pus organism of the skin surface. Thus a lesion would develop which would be necrotic at first and pustular and necrotic later.

While this experience had led him to investigate the teeth and tonsils in all cases of persistent furunculosis, he did not think it necessary to assume that all boils originated from the blood stream. Certainly, the predominating organism, the staphylococcus, could hardly circulate in the blood without producing internal as well as external signs of pus infection. Lowering of resistance to this organism must be considered an important factor in the causation of furunculosis and raising this resistance becomes one of the principle problems of relief. To this end there seemed to him good reason for the use of yeast, inasmuch as this substance contains nucleic acid which is supposed to stimulate leukocytic action, admittedly an important element in the production of immunity. Theoretically, quinin ought to be of value. The administration of alteratives and hematinics was undoubtedly useful. He considered vaccine therapy entirely rational and believed success came with it more often than failure. Poor results might be due to some error in the choice or preparation of the vaccine or to an insufficient number of doses administered. It was possible that the method of checking up the action of vaccines by occasionally taking the opsonic index might be more frequently resorted to in the future.

DR. ORMSBY thought that no method of treatment should be accepted or discarded unless it was thoroughly tried for a long period of time.

There was one point about virulence which struck him. He saw the most furuncles in summer when people were perspiring, swimming, playing golf and tennis and traumatizing their skin. Through these traumatized areas the infection occurred. He saw more boils in people just after they returned from their vacations, when they were apparently in the best of health, than before they went away when they were run down. He believed that a single boil could sensitize a patient to other boils, just as a patient can become poisoned with ivy and become sensitized to eczema.

The greatest success in treatment was in isolating the boil and keeping the germs in the area. Usually 3 per cent. of salicylic acid ointment was used, as suggested by Jackson, and the surrounding area was kept covered with that. He saw cases that were treated with hot dressings, but thought this by maceration of the skin produced a good field for the lesions to occur.

He thought patients injured themselves greatly by squeezing the boils and believed that the less boils were handled the better the patient progressed. When the hot dressings were used they should be applied for only a short time and then the ointment applied. For boils on the back of the neck and in the axillary spaces he considered roentgen therapy the ideal treatment.



## MANHATTAN DERMATOLOGICAL SOCIETY

*Regular Meeting, April 8, 1919*PAUL E. BECHET, M.D., *Chairman*

## CASE FOR DIAGNOSIS. Presented by DR. PAROUNAGIAN.

The patient, Mrs. K., aged 67, was born in Germany. The lesion was of about three years' duration, and was located at the right iliac region from the symphysis pubis to the spine. The lesion was one solid patch, about 5 inches in width and 17 inches in length, somewhat infiltrated, dark reddish-brown, and beneath the patch large tumor-like swellings could be felt. The condition did not itch nor pain to any extent. The family history was good; while she was not robust and healthy in appearance, the patient claimed to be in good physical condition. She had had diabetes mellitus, though a recent examination of her urine did not reveal the presence of any sugar, and the Wassermann reaction was negative.\*

## DISCUSSION

DR. GOTTHEIL said he would not make a diagnosis on such a short examination, but was inclined to favor a diagnosis of sarcoid. There were distinct tumors present, and the condition did not suggest tuberculosis.

DR. WEISS inclined to a tentative diagnosis of sarcoid. The inguinal gland about the size of a walnut rather vitiated the diagnosis clinically.

DR. ROSEN said that Dr. Wise's remarks recalled a case seen about three years ago—a woman with a lesion on the breast which began as this one did. A biopsy revealed carcinoma. Against the diagnosis of leukemia cutis, it would seem that with such an extensive lesion there would be more constitutional symptoms and other glandular involvement, with evidence of a leukemic condition in the blood. The leukemic infiltration would not be limited to one portion of the body after three years. He was inclined to consider it a case of carcinoma.

DR. OULMAN said that eight or ten years ago he saw a case of carcinoma of the inguinal region somewhat resembling this, and the vagina should be examined very carefully. The mass of large inguinal glands suggested cancer rather than leukemia, where the glandular enlargement would not be restricted to the one region as in this patient. A biopsy should be made, but there seemed little doubt that the condition was carcinomatous metastasis of the inguinal region.

DR. GILMOUR thought it was a case of sarcoid, and suggested that a blood count be made.

DR. DE FOREST (by invitation), when asked for his opinion, said he thought that the condition suggested carcinoma.

DR. WISE considered the lesion represented a type of circumscribed leukemia cutis.

DR. PAROUNAGIAN said that he presented the case for suggestions regarding the probable diagnosis. From the appearance of the lesions, the color, etc., without making further examinations, the diagnosis of tuberculosis cutis was made tentatively. A blood count and a biopsy would be made, and a careful effort to clear up the diagnosis. Dr. Wise evidently referred to a true leukemia of the skin, not a pseudo-leukemia.

DR. ROSEN said that one should consider the diagnosis of possible hemangioma.

DR. PAROUNAGIAN asked whether roentgen-ray treatment might not possibly help the condition, and Dr. Wise said it ought to be so treated.

\* Further observation and biopsy revealed the lesion to be one of the types of leukemia cutis.



## CASE FOR DIAGNOSIS. Presented by DR. WISE.

This case was that of a private patient, a married woman, aged 28, seen for the first time on the day of presentation. She stated that the eruption from which she was suffering had existed for two years, and that in the past four years she had had four attacks—a breaking out of “pimples” which later became scaly. The condition disappeared after medication.

Some years ago she contracted gonorrhea from her husband, and a pan-hysterectomy was performed; this, however, had no connection with the condition of her skin. She had had three negative Wassermann tests. Her husband also gave a negative Wassermann reaction. The patient had had two children and no miscarriages. She once had a slight attack of psoriasis.

She presented a number of isolated and confluent brown and yellowish pigmented scars, situated about the knees, lower part of the thighs and upper portion of the legs. There was some resemblance to the superficial scars following healed tuberculids.

## DISCUSSION

DR. OULMAN thought it was a tuberculid.

DR. PAROUNAGIAN said that he was acquainted with the patient, and happened to know that she had been treated with chrysarobin; otherwise, tuberculid would be his diagnosis of the case.

## DISSEMINATED LUPUS ERYTHEMATOSUS. Presented by DR. WISE.

This was a private patient, a woman, aged 25, who had suffered with disseminated lupus erythematosus since the age of 5. The lesions disappeared spontaneously, and reappeared without any apparent exciting factor. The present outbreak showed no tendency to disappear spontaneously. She had tried various remedies but without benefit.

She presented circular lesions, superficial in character, on the chest, back and nape of the neck. There was moderate scaling, but an absence of atrophy and telangiectases.

## DISCUSSION

DR. PAROUNAGIAN said he was quite familiar with this case, having seen the patient some two or three years ago, and having presented her at one of the meetings. At that time he exhibited the case as a superficial type of lupus erythematosus disseminatus. The patient had lesions on the skin, forehead, neck and upper portion of the sternum. There was quite a difference of opinion in regard to the case, but some of the members agreed with the diagnosis then offered.

DR. WISE said that it was interesting to note that if such patients did have tuberculosis it was of a nonvirulent type. The patient had had the condition since 5 years of age and was now 24 or 25, and still appeared healthy with no definite signs of tuberculosis of the lungs, only a suspicious picture under the radiograph. The lesions came and went, and might be due to a toxemia which had nothing to do with tuberculosis.

## LUPUS ERYTHEMATOSUS DISSEMINATUS. Presented by DR. OCHS.

The speaker said that this case was interesting in connection with the other one just presented. The patient exhibited patches of lesions on the face and eyelids, and throughout the scalp. Those on the scalp had been present for seven years; those on the face, for three years. She had also the condition to which Dr. Wise had referred, lupus pernio.

## DISCUSSION

DR. ROSEN disagreed with Dr. Ochs in thinking that the two cases presented similar conditions. In his opinion they were very dissimilar. The case presented by Dr. Ochs was the condition recognized as lupus erythematosus

disseminatus, with a marked follicular involvement and scarring; whereas in that presented by Dr. Wise the lesions were of the very superficial type, probably due to toxins. The two cases represented entirely different types.

**BROMODERMA.** Presented by DR. WISE.

V. C., aged 8 months, had an eruption of five month' duration. A biopsy had been taken, but the report had not been rendered. The history was not definite with regard to the ingestion of bromid, but the mother stated that the child had been taking medicine for four months, after which the eruption developed. The lesions were situated on the anterior aspect and the calves of the legs and on the forearms. They consisted mainly of warty plaques and nodules, together with many pigmented depressed scars.

DISCUSSION

DR. GOTTHEIL said it was a typical bromoderma. The amount of bromid taken may be infinitesimally small. The child had certainly taken bromid in some form.

**ONYCHAUXIS.** Presented by DR. BECHET.

M. A., aged 18, stated that twenty-two months previously he had an eruption on his skin, which from his description resembled ringworm, and it was so diagnosed at the time. It disappeared rapidly under treatment. Six months later he noticed changes in the appearance of the nails of two fingers, with which he remembered having rubbed salve into the lesions on the skin. The disease spread to other nails within a short time, so that at the time of presentation only two nails were normal. The toe nails remained unaffected. He presented for examination blackened, irregularly roughened nails, covered with ridges and projections and brittle at the extremity. Repeated examinations of scrapings from both surfaces of the nails, macerated pieces of nail, and even the nail bed were negative. The case was under observation for ten months, and there had been no improvement. The speaker asked for therapeutic suggestions; he had tried many various applications, with negative results.

DISCUSSION

DR. WISE said he had always had the impression that ringworm of the nails presented a characteristic crumbling and striation, but he had recently reached the conclusion that that clinical picture was not exact, for on several occasions he had seen cases of ringworm like the one presented by Dr. Bechet. He had been successful in treating them with  $1\frac{1}{4}$  Holz knecht units of roentgen rays skin distance, once a month, after which a finger cot was kept on to soften the nails.

DR. OCHS said that he treated such cases with pure carbolic acid, painting it on about three times a week, and not washing it off at all. The nails, of course, finally came off.

DR. LEVIN did not consider the condition as caused by infection with the ringworm fungus. He regarded it as a trophic disturbance of the nails due to some general systemic disturbance. He told of four similar cases which were cured by internal treatment alone. In his family a case had occurred which began to show improvement after four weeks of general treatment. The other three cases were those of another dermatologist who found evidence of carbohydrate fermentation in two and putrefaction in one. All three were cured by a change in diet and treatment of the bowel condition. The patient presented by Dr. Bechet showed evidence of carbohydrate fermentation and treatment should be directed against this condition.

DR. BECHET said the patient had received a few exposures with the roentgen ray without any apparent benefit. The nails had been scraped off, one of the

loose nails was extirpated and the whole surface beneath it thoroughly curetted and examined microscopically. Pieces of the nails had been boiled in liquor potassae, but no mycelium was ever found. The most active local treatment with many varied applications was attended with negative results.

DR. GILMOUR did not understand how a case could clear up in three or four weeks when it required four months for a new nail to grow out entirely. He had treated similar cases with 10 per cent. ammoniated mercury ointment, which markedly improved them.

DR. GOTTHEIL said that he had not met with very much success, nor had he been able to establish a definite connection between these trophic conditions and any intestinal or systemic disturbance. There were certain cases of fungus disease in which one could not find the fungus. Just what was the condition of the case presented, he did not know; but he hesitated to call it onychomycosis. The nails did not, in his opinion, present that appearance. These nail conditions appeared to him more mysterious as time went on. He did not like to see them appear in his office.

DR. WEISS said that one should not forget that these dystrophies of the nails might be due to some pluriglandular disturbance. If one examined these patients he would probably find the characteristic anthropologic marks, and by administering either thyroid or pituitary extract, according to the indications, good results might be obtained; many cases that did not improve under local treatment would improve under endocrinology. This patient seemed to show signs of thyroid deficiency, and judging from general conditions a very small dose of thyroid would probably show a remarkable change.

#### LUPUS VULGARIS. Presented by DR. WISE.

The patient, Mrs. S. M., aged 28, had had the lesion for three years. It was situated on the left cheek, was circular in shape and about the size of a 25-cent piece; it was slightly raised above the level of the surrounding skin, with sharply defined borders. The surface was reddened, but there was no scaling. The plaque was soft to the palpating finger. There were no subjective symptoms.

#### CASE FOR DIAGNOSIS (SARCOMA?). Presented by DR. LEVIN.

The patient, H. F., a woman, aged 28, married, Russian, was operated for a dacrocystitis one year ago. Four months ago a swelling appeared near the inner canthus of the right eye. This increased slowly in size and was painful at times. The tumor was located in the area between the inner canthus of the right eye and the bridge of the nose. It was purplish in color, the size of a walnut, irregularly globular in shape, smooth, soft, and showed a distinct pulsation on palpation. Two pustules were present on the top of the lesion. The eyeball was pushed forward and there was a marked ptosis of the upper lid. Roentgenographic examination of the skull showed a destruction of the orbital plate. Ophthalmologic examination showed normal retina. Several polypoid growths were present in the right side of the nose. The Wassermann reaction was negative on several occasions. Smears and cultures of the pus were negative for actinomyces. The patient was given four intravenous injections of arsphenamin and four intramuscular injections of mercury as a therapeutic test. Following this treatment there was a slight decrease in the size of the swelling.

#### DISCUSSION

DR. GOTTHEIL said it looked like an angiosarcoma.

DR. WISE agreed with the diagnosis as presented.

## LEUKOPLAKIA, VERRUCOUS LESIONS AND INTERSTITIAL GLOSSITIS. Presented by DR. ROSEN.

The patient, E. K., aged 52, from Dr. Fordyce's clinic, was a married man; his wife had never been pregnant. He gave a history of chancre twenty-five years ago. He presented a verrucous or cauliflower-like infiltration of the inner surface of the cheek, the roof of the mouth, and lips; also a glossitis. The lips, both upper and lower, showed a thick, verrucous eruption, with edges slightly raised and probably undergoing epitheliomatous degeneration. The cheeks showed a glistening, white, cauliflower verrucous eruption.

## DISCUSSION

DR. GILMOUR had no doubt but that it was a case of epithelioma. He had noted the hard, pearly-like border on the upper edge of the lesion on the lip.

DR. GOTTHEIL said the patient had hypertrophic lesions already, epithelial hypertrophy. He saw no reason for bothering the patient with treatment for leukoplakia if it was not causing trouble. He did not himself like to treat these cases, as he had seen them degenerate into cancers.

## TUBERCULOSIS VERRUCOSA AND LUPUS VULGARIS. Presented by DR. LEVIN.

The patient, P. S., a man, aged 26, unmarried, a native of Russia and a salesman of silk by occupation, noticed a small, hard elevation of the palm six years ago. This had grown slowly to form a hard, warty growth. About the same time a softer lesion appeared on the wrist; four years ago, after the application of a strong ointment, part of this lesion faded.

On the hypothenar eminence of the right hand there were two dime-sized, round, elevated, hard growths with flat, warty, scaly tops. On the anterior surface of the wrist there were a dozen flat, apple-jelly, soft tubercles.

## PSORIASIS AND CHANCRE. Presented by DR. ROSEN.

The patient, a man, aged 28, from Dr. Fordyce's clinic, presented two distinct diseases, one being psoriasis which had been treated with antipsoriatic ointment, the psoriasis having existed for six years, and a lesion on the penis which showed the remains of a chancre. The chancre was beginning to involute as the result of antisyphilitic treatment. The diagnosis was made by the dark field, and the patient treated before the appearance of visible secondary symptoms.

DR. BECHET reported on a case of scrofuloderma presented at the previous meeting. The patient had had the lesion for twenty years. She had received, during the interval of a month, three treatments with a quartz ultraviolet lamp, which caused a violent reaction, on the subsidence of which the sinuses closed and healed and the gland became smaller. Of course it was impossible to say whether this remarkable change for the better was permanent. The treatment would be continued.

DR. GILMOUR reported on a case of rupia shown at the last meeting. The patient had received antisyphilitic treatment and the condition had cleared up.

Another case, the man with leukoplakia of the mouth and beginning sarcoma, had been sent to the General Memorial Hospital. This patient had been shown in the fall. He was treated with radium, and later came back to the clinic much emaciated, but the leukoplakia of the tongue looked shrivelled. Glands on both sides of the neck had been excised.



# Review of Dermatology and Syphilis

Under the direction of FRED WISE, M.D., New York

Assisted by

PAUL E. BECHET, M.D., New York	OSCAR L. LEVIN, M.D., New York
W. H. GUY, M.D., Pittsburgh	M. L. RAVITCH, M.D., Louisville
ROBERT C. JAMIESON, M.D., Detroit	ISADORE ROSEN, M.D., New York
M. F. LAUTMAN, M.D., Hot Springs	VICENTE PARDO, M.D., Havana, Cuba
A. W. STILLIANS, M.D., Chicago	C. C. TOMLINSON, M.D., Omaha
J. FRANK WAUGH, M.D., Chicago	

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Abstracted by I. ROSEN, M.D.

A CASE OF POROKERATOSIS. H. MACCORMAC, and C. DE C. PELLIER, p. 196.

The patient, a soldier, 27 years of age, presented lesions on all the fingers and extending up the front of the forearm in an irregular band. The left shoulder, left axilla and left side of the neck were also involved. Similar lesions covered the left breast and left sternal region in front, and the left shoulder and scapula posteriorly. All the nails of the left hand were affected except the thumb nail. They were thickened, rough, brittle and raised from the nail bed at the free end.

Microscopic examination showed hyperkeratosis of the mouth of the sweat ducts and of the hair follicles. There was slight increase in the number of cells in the rete and a flattening of the papillary layer. In the papillary and sub-papillary regions moderately dense cell infiltrations existed, and the same infiltrations existed around the sweat glands and small blood vessels.

A CASE OF HYPERKERATOTIC LINEAR NAEVUS, WITH SOME OBSERVATIONS ON ITS MICROSCOPIC STRUCTURE. H. C. SEMON, p. 200.

AN UNUSUALLY EXTENSIVE CASE OF SYMMETRICAL KERATODERMIA. G. VILVANDRE, p. 202.

The condition involved the hands, forearms and elbows, both feet, part of the legs, especially the knees. The lesions were wider in extent at the knees and tapered to a point on the tibia. The plantar surfaces of both feet were symmetrically affected, the lesions being of a dark, blackish-gray color, and deeply fissured, resembling the bark of a tree. The dorsal aspects of the feet were also involved. The hands, both dorsal and palmar aspects, were thickened and indurated, the condition extending to the elbows on the anterior aspect and to the wrist on the dorsal. The case differs from common tylosis in the invasion of the knees and the dorsal aspects of the adjacent parts of the limbs.

Microscopic examination showed the stratum corneum from two to six times as wide as the stratum Malpighii; it contained very few nuclear remnants. The outer surface of the stratum malpighii was undulatory, being raised and depressed in correspondence with the papillary processes and inter-papillary bays of the epidermis. In portions of the stratum granulosum prickles were present; the cells beneath the granular layer showed perinuclear vacuolation and were without prickles. In the papillary zone of the dermis, and immediately beneath it, there was a slight perivascular infiltration with lymphocytes and fibroblasts; the vessels were not engorged, and elastic fibers were present in normal amount and distribution.

WHITE SPOT DISEASE AND VITILIGO. J. L. BUNCH, p. 203.

AN HISTORICAL NOTE ON THE NITS OF THE BODY LOUSE.  
GEORGE PERNET, p. 208.

(August 17, 1918, 195, No. 7)

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### BRITISH MEDICAL JOURNAL

Abstracted by J. FRANK WAUGH, M.D.

AN ACIDFAST BACILLUS OBTAINED FROM A PUSTULAR ERUPTION. LOUIS COBBETT, p. 158.

The bacillus was cultivated from chronic intractable pustules covering the back, buttocks and thighs of a soldier returned from France. The lesions developed one month after an injury to one foot and consisted of swellings of various sizes and stages of development and old scars. Repeated cultures from a stringy purulent material revealed an acidfast bacillus whose pathogenic power was low when injected into a guinea-pig. The morphology of both the bacillus and colonies changed when subcultures were made.

(*Ibidem*, Sept. 7, 1918)

OBSERVATION ON THE ETIOLOGY AND TREATMENT OF SEBORRHEIC ERUPTIONS. H. W. BARBER and H. C. SEMON, p. 245.

The prevalence of seborrheic eruptions and their association with other cutaneous disorders in the army is emphasized. The manifestations are protean and include such apparently widely differing eruptions as a crusted and weeping eczema of the scalp, a dyshidrotic eczema or cheiropompholyx of the fingers, and a patch of lichenification on the calf of the leg. The appearances vary according to the anatomic situations and chronicity of the lesions and the degree of secondary microbial infection. In about 85 per cent. of the cases in which the scalp, ears or face are involved there is an associated seborrheic dermatitis of the anterior and posterior midthoracic regions, while a common sequela is the development of recurring boils, especially on the neck just below the scalp margin.

The tendency of seborrheic eruptions to recur and the frequency of associated nasal and nasopharyngeal catarrh led to the conception of an underlying constitutional dyscrasia, which might be responsible for both of the above conditions. The authors are supported in this assumption by M. J. Darier who has correlated the tendency to seborrheic eruptions with a peculiar type of skin, to which he has given the name "keroze"; its clinical stigmata are briefly: (1) A brownish or dirty yellowish complexion; (2) wide-mouthed and prominent pilosebaceous follicles, with hyperkeratosis of their orifices; (3) a slight thickening of the skin, with diffuse hypertrophy of the horny layer and a tendency to fine desquamation.

The etiologic factors, according to Darier, are two: Sexual development and erroneous diet in which excessive carbohydrates and stimulants, faulty mastication, constipation, etc., all play a part. Darier further believes that the bacteria described by Unna, which he always found in seborrheic lesions, owe their activity and pathologic effects mainly to the soil on which they are dependent which in turn is dependent on the underlying constitutional state of the patient.

The writers are in sympathy with Darier's conception and believe that explains the frequent relapses suffered by patients with such eruptions.

Barber and Semon studied several hundred cases of seborrheic eczema and were convinced that the main factor in their production is a metabolic dyscrasia or error in biologic assimilation, while external irritants such as parasites, bacteria, poisonous gases, etc., are the excitants.

A study of the relationship between nasal and naso-pharyngeal catarrh and seborrheic disorders was made; in ninety-three cases, fifty-nine had active catarrh and twenty-four had the recurrent type of the disorder. Reference is made to an interesting article by Czerny who described under the term "exudative diathesis" a condition of congenital susceptibility to catarrh, to bacterial infection of the skin and membranes. The manifestations of this diathesis are provoked by excess of carbohydrates and fats. Two types of seborrheic individuals are considered; those congenitally disposed and those in whom the disorder has suddenly appeared as the result of environment, in which class the prognosis is better and relapse less likely to occur. Constant hyperacidity of the urine supports the assumption that the seborrheic state is really a manifestation of acidosis. When the urine becomes alkaline under proper treatment, prompt improvement results both in the cutaneous disorder and in the general condition of the patient.

The question of alkaline tolerance is discussed in detail and a number of case reports given with treatment outlined. The authors state that the majority of patients with seborrheic manifestations show a markedly increased alkaline tolerance. In one case, it was necessary to give the patient 9 drams of sodium bicarbonate and  $4\frac{1}{2}$  drams of potassium citrate per diem before an alkaline urine was obtained. In a series of 300 cases with seborrheic manifestations in which alkalis were given, their action is considered specific, and will prevent recurrences. Locally, an oily alkaline suspension of calamine gave the best results.

The relation of diet to the status seborrheicus is discussed in detail.

*Conclusions.*—1. There is a constitutional state, which may exist from infancy or may appear *de novo* in adults, and which may be termed the status catarrhalis or exudativus (Czerny); where this condition exists the skin and mucous membranes show an abnormal susceptibility, not only to various bacterial infections, but also to mechanical and chemical irritation.

2. Persons in whom the status catarrhalis is present, either permanently or temporarily, are liable to develop the multitudinous eruptions which have been variously termed seborrheic eczema or dermatitis, true eczema, pustules, boils and the wrongly termed "impetigo," really an impetiginized seborrheic eczema. These manifestations, in whole or in part, are intimately dependent or associated with the existence of an underlying dyscrasia, to which we have ventured to give the name status seborrheicus.

3. There is considerable clinical and therapeutic evidence to suggest that all patients with the status seborrheicus are suffering from a relative acidosis. We are of the opinion that this condition may have resulted from a diminution of the intake in their food of the fixed bases—the monosodium and disodium phosphates and the carbonates, which are normally present in fresh fruits and vegetables, and which are largely responsible for the maintenance of an exact alkaline-acid equilibrium in the blood and tissue fluids.

4. As a practical outcome of these considerations there is abundant clinical evidence of the value of alkalis in the treatment of clinical eczema.

*(Ibidem, Sept. 14, 1918)*

## THE TREATMENT OF SCARLET FEVER. ROBERT WATSON, p. 300.

This is a brief article on the home care of mild scarlet fever cases. The writer deplors the usual inactivity of physicians in handling cases of scarlet fever. He has followed the Milne method of treatment and is enthusiastic over the result secured. In this treatment the patient's entire body is anointed with pure oil of eucalyptus, twice daily, for the first four days, then once daily until the tenth day; the throat is swabbed with 10 per cent. carbolic oil every two hours during the first day after the diagnosis is made. At first the diet is soda water or hot water and milk in equal quantities, but in a few days a light diet is permitted, and by the tenth day, ordinary diet.

*(Ibidem, Sept. 28, 1918)*

## THE VALUE OF X-RAY IN THE TREATMENT OF MALIGNANT DISEASE OF THE BREAST. CLAUDE SABERTON, p. 337.

Three classes of cases are considered: (1) Prophylactic treatment following operation; (2) treatment of recurrences; (3) inoperable cases. Large doses of rays well filtered are recommended. The author does not give his technic of administering the rays, nor does he tell what method for measuring them is used. He concludes that:

1. The patients are less likely to have a recurrence of the disease than patients not so treated.
2. Local recurrence in the scar area is rare.
3. Superclavicular deposits do occur, but can as a rule be controlled. These deposits never break down or ulcerate.
4. Mediastinal recurrence appears to be less frequent.
5. The general health of the patient is improved.

In the treatment of recurrences, much can be done to relieve pain and prevent ulceration. Large glandular masses frequently disappear. In inoperable growths x-ray should always be given a trial. Frequently the worst cases will do better than those less severe. Massive doses must be used and pushed to the limit of skin endurance as small doses stimulate cell growth. Reference is made to late x-ray reaction occurring some weeks or months after treatment. The skin and subcutaneous tissues become tough and leathery and finally slough.

The author's conclusions are as follows: The x-rays are of undoubted therapeutic value, prolonging life, relieving pain, controlling and preventing glands from ulcerating. The primary growth frequently remains *in statu quo*. Inoperable growths occasionally become operable. The mental comfort derived by the patient would justify the treatment.

*(Ibidem, Sept. 28, 1918)*

## A CASE OF FATAL JAUNDICE. RAWDON A. VEALE and B. H. WEDD, p. 341.

A case report of a man treated for syphilis in which jaundice developed five weeks after a series of eight injections of novarsenobenzol, 0.6 gm. each, were given in a period of about seven weeks. Postmortem examination revealed marked degeneration of the hepatic cells and hemorrhages into the alveoli of the lungs probably due to infection.

*(Ibidem, Oct. 19, 1918)*

## THE CURATIVE EFFECT OF KHARSIVAN AND NEO-KHARSIVAN IN DISEASES OTHER THAN SYPHILIS. G. STOPFORD-TAYLOR, p. 431.

The wonderful improvement seen in the general health of those who have had a course of arsphenamin or its compounds for syphilis led Stopford-



Taylor to use the remedy in other intractable and chronic disorders of the skin, such as lupus, sycosis and constitutional eczema. Five injections of neokharsivan were given at weekly intervals to a man suffering from tuberculous ulcers of the right forearm; after the fifth injection the ulcers were entirely healed. A case of life-long ulcerating lupus of the face was practically healed after three injections of the same preparation.

A soldier with severe sycosis of two years' duration had received roentgen-ray treatment and other measures without permanent relief. He was quite well after receiving two injections each of kharsivan and neokharsivan at fortnightly intervals; there was no recurrence after six weeks. A woman of 35 with recurrent eczema of the scalp since childhood and chronic blepharitis was given six weekly injections of neokharsivan with a complete cure resulting, and marked improvement in the general condition of the patient.

*(Ibidem, Oct. 19, 1918)*

THE WORK OF A VENEREAL DISEASE CLINIC. OWEN L. RHYS, p. 432.

This is a report of 500 male patients at the Cardiff clinic, King Edward VII Hospital. The article is of value largely for statistical purposes.

*(Ibidem, Oct. 26, 1918)*

THE UNRELIABILITY OF SULPHUR FOR THE DESTRUCTION OF LICE IN CLOTHING. A. BACOT, p. 464.

This article consists of a rather detailed description of using sulphur vapor as a disinfecting agent. A number of experiments were made with the result that the method is not endorsed by the author who strongly recommends either dry or moist heat for one hour at a temperature of 55 C.

*(Ibidem, Nov. 2, 1918)*

THE DIFFERENTIAL DIAGNOSIS OF SCARLET FEVER, MEASLES AND RUBELLA. J. S. WARRACK, p. 486.

This is a very good and rather detailed description of the symptoms of these diseases. Nothing new of importance is revealed in the article, which treats only of the diagnosis of these disorders.

*(Ibidem, Nov. 16, 1918)*

TREATMENT OF ANTE-NATAL AND POST-NATAL SYPHILIS. JOHN ADAMS, p. 541.

The author reports a series of thirty cases of pregnant syphilitic women who received care and treatment in a hospital for venereal disease. A detailed description of the management of the cases is given, both in respect to the cases themselves and treatment of the patients.

The writer's conclusions are as follows: 1. Syphilitic pregnant women can be treated with arsphenamin with safety and every advantage even to the day of their confinement. 2. A mother whose blood gives a positive Wassermann test reaction may, after treatment, be delivered of a child whose blood gives a negative reaction. The child may continue to thrive and give a negative blood test. 3. Syphilitic children can safely be treated by arsphenamin immediately after birth. 4. Arsphenamin combined with treatment by mercury, has a more certain and quicker action in producing a negative Wassermann test reaction in the child than in the mother. 5. In nearly all syphilitic children born alive, treatment can convert a positive Wassermann test reaction into a negative, and such children appear to become healthy and show a regular weekly gain in weight.

(*Ibidem*, Nov. 16, 1918)

SUPRAORBITAL ZONA. F. B. JUDGE BALDWIN, p. 543.

This is an interesting case report. The writer calls attention to the fact that the disorder is usually discussed in a more or less casual way and believes it merits more attention. Especially in the middle-aged is it frequently quite serious. The intense pain of the onset, the possible blindness due to scarring of the orbital conjunctiva, the severity of the pain following healing of the lesions and the scarring all make this disorder one of importance.

(*Ibidem*, Dec. 7, 1918)

TREATMENT OF ANTE-NATAL AND POST-NATAL SYPHILIS. JOHN ADAMS, p. 770.

This article contains a detailed case report giving the results of treatment of twenty-four babies born of syphilitic mothers; of these, five were born with a negative Wassermann test reaction; seven became negative after treatment; one died from syphilis; in one the cause of death was unknown; six babies remain positive under treatment and are doing well; four were still-births. With the exception of two out of the twenty-four cases there was acute syphilis in the mothers. The treatment was that described in the *Lancet* (Nov. 23, 1918). After having some of the cases under observation for nearly a year, the author felt amply rewarded by the results.

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## LANCET

(Nov. 23, 1918, 195, No. 21)

Abstracted by J. F. WAUGH, M.D.

TREATMENT OF ANTE-NATAL AND POST-NATAL SYPHILIS. JOHN ADAMS, p. 707.

This is a report of thirty cases of pregnant syphilitic women treated in a venereal hospital. Details of treatment before and after delivery, the treatment of the baby, and the results are given.

On admission a Wassermann test was made in every case. Immediately on the birth of the child the Wassermann test was done on the blood of the mother, on that obtained from the vessels of the divided umbilical cord, and a portion of the placenta is examined for spirochetes. As soon as syphilis is diagnosed in the mother, weekly doses of the arsphenamin substitutes are administered intravenously, beginning with a small dose and increasing until nearly the maximum is reached; intramuscular injections of mercurial oil (gray oil). (British Pharmaceutical Codex) 40 per cent. emulsion, are given in 1 grain doses on the same day as the arsphenamin. Galyl and novarsenobillon are used; galyl in glucose solution exclusively, for the babies.

Mercury is considered essential in the treatment: When given internally, the author recommends a pill of mercury with chalk, with equal parts compound ipecac powder, as advocated by Sir Jonathan Hutchinson. Galyl is preferred to novarsenobillon. The dose of galyl for a baby is estimated by comparing the baby's weight with that of the mother, of which it is about one-seventeenth, so that babies were given an intramuscular injection of galyl in glucose solution, in doses beginning at 2 cg. and increasing to 5 cg., and mercury in  $\frac{1}{4}$  to  $\frac{1}{3}$  grain or more. Under hospital care and early treatment, it is believed fewer syphilitic children would be born dead, a larger proportion would go to full term, and if not free from syphilis at birth they could by treatment soon become so.

*(Ibidem, Nov. 30, 1918, 195, No. 22)*

## THE USE OF ANTIGENS IN DIAGNOSIS BY THE WASSERMANN REACTION. C. H. BROWNING and E. L. KENNAWAY, p. 733.

The purpose of this article is to draw attention to limitations of antigens in common use, which should preclude the adoption of any single one as a standard. Different antigens are discussed somewhat in detail. The authors recommend two as being the most reliable: an alcoholic extract of human heart plus cholesterol, and a liver lecithin plus cholesterol. In a series of parallel tests these two antigens gave the same results in 83 per cent. of cases. Heart cholesterol antigens usually give a larger amount of complement fixation, but in the series of tests described the liver lecithin-cholesterol antigen gave a stronger test in 6 per cent. of cases.

In the absence of an ideal antigen the present results indicate that a proportion of weak positive reactions will be missed if only a single antigen be employed in performing the Wassermann test. Hence it is advisable always to use both antigens. Since all laboratory tests are productive of the most valuable results when the clinician and the laboratory worker collaborate intimately, the desirable procedure would appear to be that where tests are performed with only one antigen, all serums should be preserved (e. g., by freezing) so that if a positive reaction fails to be obtained in cases which are clinically suspicious, the test may be repeated with the other antigen. Of course, when the reaction is being tested for the control of treatment, both antigens should be employed.

## PROCEEDINGS OF THE ROYAL SOCIETY OF MEDICINE

*(December, 1918, 12, No. 2)*

Abstracted by W. H. GUY, M.D.

## MELANOTIC GROWTHS (CARCINOMATOUS). GEORGE PERNET, p. 11.

Following direct trauma to a pigmented mole, there developed a lobulated rather rapidly growing tumor. A clinical diagnosis of melanotic carcinoma was made and radium treatment applied with benefit. The writer reports that the growths have flattened down and appear to be doing well. Biopsy was not made nor was the growth removed surgically.

## CASE OF ACTINOMYCOSIS. E. G. GRAHAM LITTLE, p. 12.

A child, aged 12, was first seen on the eighth day; there was an indurated, painless, dusky red swelling near the angle of the jaw. Mycelial threads were demonstrated in tissues removed at operation, but cultures were negative. The patient had made considerable progress under the iodid of potassium.

## CASE OF EXTENSIVE PIGMENTED NAEVI. E. G. GRAHAM LITTLE, p. 13.

## FOLLICULITIS DECALVANS. E. G. GRAHAM LITTLE, p. 13.

This is a description of a slowly advancing cicatricial alopecia involving the vertex and frontal area of the scalp. There had been no inflammatory redness and practically no suppuration, but on close inspection characteristic perifollicular excavation and slight redness were noted.

## CASE OF LICHEN OBTUSUS CORNEUS. W. KNOWSLEY SIBLEY, p. 14.

## ANNALES DES MALADIES VÉNÉRIENNES

*(August, 1918)*

Abstracted by PAUL E. BECHET, M.D.

CHANGES IN THE CEREBROSPINAL FLUID IN SYPHILIS  
AMONG THE NATIVES OF ALGERIA. JEAN MONTPELIER, p. 449.

Montpelier states that in his experience the theory that cerebrospinal syphilis is rare among Algerians is a fallacy; he found it to be just as frequent as among Europeans. In an analysis of the cerebrospinal fluid in sixty cases of the disease in all its stages, he found that the pathologic changes were most frequent in the secondary period. In some of the cases the changes began even before the mucocutaneous eruptions. His findings were invariably negative in the primary stage. The most frequent change was in the albumin content, and in his opinion this was the beginning of the pathologic process. One of the cases developed a marked albuminosis and lymphocytosis thirty-five days after the chancre and twelve days before the papular eruption.

## RESEARCHES IN THE ANALYSIS OF ARSENIC AND MERCURY IN THE URINE. PAUL DURET, p. 460.

The author goes into the various chemical details involved in the estimation of arsenic and mercury in the urine. The urine of four syphilitics, otherwise healthy, was examined after four injections of neoarsphenamin given at intervals of eight days in the following doses: 0.3, 0.6, 0.75 and 0.9 gm. Arsenic appeared in the urine within twenty-four hours after the first injection; the elimination of the arsenic persisted until after the last injection. In one of the cases arsenic continued present in the urine twenty days after the last injection. Duret found that the proportion of the drug eliminated was greatly inferior to that injected. The greatest quantity found in the twenty-four hours after the injection of 90 gm., was 0.012 gm. The most active elimination occurs within forty-eight hours. He concludes from his analysis that elimination of arsenic through the urine is very slow, amounting in the cases analyzed to only one-fifth of the total amount injected. Mercury appeared in the urine within twenty-four hours after an injection of 2 c.c. of a 1 per cent. solution of benzoate of mercury. A total of 0.0005 gm. of mercury was found in the urine in twenty-four hours, while the amount of mercury injected was 0.00863 gm. Mercury appeared in the urine thirty-six hours after the insertion of two suppositories containing 0.03 gm. of mercury, and inserted twenty-four hours apart. Mercury appeared in the urine forty-eight hours after the ingestion of four pills of corrosive sublimate, of 0.01 gm. each, taken at twelve-hour intervals. After an intramuscular injection of 0.05 gm. of calomel, mercury appeared in the urine three days later.

*(Ibidem, September, 1918)*INFLUENCE OF ANTIGEN ON THE TIME OF APPEARANCE  
OF THE WASSERMANN REACTION IN PRIMARY SYPHILIS.  
LEVY-BING, GERBAY and HAAG, p. 471.VENEREAL PROPHYLAXIS, A CAMPAIGN OF PROPAGANDA.  
GOUGEROT, p. 513.

This exhaustive article goes into the details of venereal prophylaxis, moral and chemical, but presents nothing essentially new.



THE JOURNAL OF CUTANEOUS DISEASES  
ACTAS DERMO-SIFILOGRAFICAS

(June-July, 1918, 10, No. 5)

Abstracted by VINCENTE PARDO, M.D.

PROPHYLAXIS OF ARSPHENAMIN ACCIDENTS. E. ALVAREZ SAINZ DE AJA, p. 211.

S. de Aja supports the theory that almost all the arspenamin accidents are of anaphylactic nature. After a short review of the history of anaphylaxis, he describes the accidents that may occur after the injection of arsenical compounds and reports seven cases in which he employed the method of vaccination against anaphylaxis, first pointed out by Bedreska. The author's conclusions are as follows: The injection of a small amount of epinephrin is of help in some cases, but it fails very often; an intravenous injection of 0.05 gm. of arspenamin fifteen minutes before the massive dose is injected will prevent all anaphylactic reactions.

HERPES GESTATIONIS. E. ALVAREZ SAINZ DE AJA, p. 243.  
Case report.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

(Jan. 11, 1919, 72, No. 2)

Abstracted by OSCAR L. LEVIN, M.D.

FAVUS HERPETICUS, OR MOUSE FAVUS. R. E. BUCHANAN, p. 97.

Mouse favus exists in many parts of Europe and in Australia and probably in the United States. It may be transmitted to man; and although it is highly fatal to mice, in man it yields rapidly to treatment. It is not improbable that cases of favus herpeticus may arise occasionally among men who handle the imported Australian wheat, or animals, particularly rodents, that feed on the grain or on certain of the by-products of the mill. It is not probable that the danger from the disease is great enough or the disease itself serious enough, to warrant interference with the importation of the wheat from Australia.

A CASE OF MULTIPLE CHANCRES OF THE PENIS. JAMES C. SARGENT, p. 100.

(*Ibidem*, Jan. 18, 1919, 72, No. 3)

EXPERIMENTAL MEASLES. LUDVIG HEKTOEN, p. 177.

The writer reviews the results of the efforts to produce measles experimentally. The results of human experiments show that the cause of measles is present in the nasal secretions, scrapings of the skin, and the blood, during the earlier part of the eruptive stage. Attempts to produce by inoculation a mild, modified or localized form of measles have not given conclusive results.

The only animal proved susceptible to measles so far is the monkey, but the susceptibility is not marked and seems subject to variation. The disease in the monkey is mild and takes the form, after an incubation of several days, of a brief fever, with which may be associated more or less typical skin lesions, respiratory symptoms, Koplik spots, and the characteristic leukopenia. The results in monkeys show that the cause of measles is present in the naso-

pharyngeal secretions and the blood at least twenty-four hours before the rash, as well as for a day or two afterward.

CHANCRE OF THE FINGERS. DOUGLASS W. MONTGOMERY and GEORGE D. CULVER, p. 180.

Three cases of chancres of the fingers in a nurse and two physicians are reported. The writers emphasize the fact that gynecologists and obstetricians are particularly liable to syphilitic infection of the fingers. A paronychia-like chancre is peculiarly difficult to recognize. An obstinate, long enduring and exceedingly painful panaritium, occurring in a physician or a nurse, should lead to repeated examinations for spirochetes.

Any sore lasting longer than an ordinary infection and situated on the dorsal surface of the web between the thumb and the index finger, or on that between the index and middle finger in a gynecologist or obstetrician, should give rise to the gravest suspicion of its syphilitic nature. Attention is also called to the fact that all chancres do not ulcerate but may form extensive infiltrations.

*(Ibidem, Jan. 25, 1919, 72, No. 4)*

ATROPIN AND INDUCED ANTIANAPHYLAXIS. J. H. STOKES, p. 24.

Stokes believes that the acute nitrite reaction to arsphenamin is a form of anaphylactic shock, explainable on physiochemical grounds as the result of a precipitation either of the drug from its colloidal solution or of the colloids of the blood plasma, by the drug, or by an impurity. The reaction following the injection of an acid or only partially alkalinized solution of arsphenamin either too rapidly or of too high concentration is presumably of the same type.

In a series of twelve cases he was able to prevent the reaction by a previous injection of atropin (0.02 grain), which further suggests that the reaction is a form of anaphylactic shock.

ANTHRAX AT EMBARKATION HOSPITAL, NEWPORT NEWS, VA. OTIS T. AMORY and BENJAMIN RAPPAPORT, p. 269.

Four cases of anthrax are reported in which the bacilli were found and recovery followed excision of the lesion with carbolic acid cauterization of the base and the application of a wet dressing of alcohol.

ANTHRAX AT CAMP DODGE, IOWA. CARL G. DENNETT, p. 270.

Three cases of anthrax are reported, two terminating in recovery and one in death. Blood studies and bacteriologic investigations showed that the leukocytosis runs concurrently with the blood culture findings, that the eosinophilia is in inverse proportion to the severity of the infection, that the organism is easily obtainable in pure culture and that the guinea-pig is very susceptible to the organism.

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## JOURNAL OF LABORATORY AND CLINICAL MEDICINE

*(January, 1919, 4, No. 4)*

Abstracted by OSCAR L. LEVIN, M.D.

NOTES ON THE DECOMPOSITION OF ARSPHENAMIN. JOHN B. RIEGER, p. 181.

Experimenting with the various commercial arsphenamins the writer found that arsphenamin may contain an arseniureted methyl compound, which decom-

poses either in the ampule or in solution, with liberation of arsenous oxid or a cacodyl-like substance. Some preparations betray the arsin by their garlic-like odor when dissolved; others develop it only after having stood in solution for hours. According to the amount that may have accumulated, the dosage and the idiosyncrasy of the patient, a reaction marked by fall in blood pressure, dyspnea and cyanosis may occur. Once the drug has been injected, the occurrence of subacute or chronic arsenic poisoning is determined by the margin that exists or may be made to exist between its elimination and its reduction by the tissues. There is evidence that this reduction to metallic arsenic occurs too readily for safety with present commercial preparations of arspenamin.

#### A MODIFIED HECHT-GRADWOHL TEST FOR THE SERUM DIAGNOSIS OF SYPHILIS. W. J. BRUCE, p. 215.

This test is more delicate than the Wassermann test reaction in the serological diagnosis of syphilis, yet it should be utilized only as a control test.

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### MEDICAL TIMES

(January, 1919, 47, No. 1)

Abstracted by OSCAR L. LEVIN, M.D.

#### A REVIEW OF DERMATOLOGY AND SYPHILIS DURING THE YEAR 1918. OSCAR L. LEVIN, p. 14.

A review of the literature of dermatology for 1918 shows a deficiency in original research work. Rare and interesting cases were reported and several papers appeared discussing the relationship of anaphylaxis, focal infection, plant poisons, tuberculosis and the vegetative nervous system to the etiology of the dermatoses. New suggestions were also made in the treatment of certain cutaneous diseases. Routine work was performed in syphilis and a gratifying interest was manifested in the attempt to eradicate the disease and in measures to control the spread of venereal diseases. A complete bibliography accompanies the article.

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### NEW YORK STATE JOURNAL OF MEDICINE

(January, 1919, 19, No. 1)

Abstracted by OSCAR L. LEVIN, M.D.

#### SYPHILIS AS A CAUSE OF BACKACHE. PERCY WILLARD ROBERTS, p. 20.

The cases of backache described in this paper fall under the general classification of myositis. Their symptomatology suggests irritation of muscle and fibrous tissue by some toxic material, and the degree of discomfort ranges from a dull lumbar backache to acute pain on any attempt at motion.

While the presence of syphilis was not demonstrated in these patients, Roberts regards them as syphilitic because of dental defects and the fact that improvement followed the administration of mixed treatment.

## UROLOGIC AND CUTANEOUS REVIEW

*(January, 1919, 33, No. 1)*

Abstracted by OSCAR L. LEVIN, M.D.

RADIUM IN THE TREATMENT OF BASAL-CELLED CANCER.  
MARTIN F. ENGMAN and JOHN S. KIMBROUGH, p. 1.

The writers state that in the treatment of epitheliomata, basal-celled cancer requires only a small dose of radium, with slight screening, while the prickled-celled type requires large fulminating doses, with heavier degree of screening.

In the treatment of rodent ulcer, which usually occurs on the face, the cosmetic results should be considered. Surgery cannot compete with roentgen ray or radium in cosmetic effect and in the writers' experience, relapse is more frequent after surgical interference than with any other method. They regard radium more efficient than the roentgen rays for the treatment of rodent ulcer and also claim that radium offers many advantages over all other methods, because of its stability, its exact dosage under all conditions; its power can be absolutely controlled and accurately measured.

The efficiency of radium as a therapeutic agent in cancer of the skin, lies not only in the destruction of the cells by the rays emanating from radium, but also from the strong reaction which occurs in a few days after its application, and which lasts for several days to a week or so thereafter.

Burns following the application of radium are never so severe as those occurring from roentgen rays. The usual care and knowledge of time, distance and screening, will reduce the hazard of a burn, as the quality and quantity of the rays emanating from the radium element are always the same and a little experience and judgment will suffice to prevent untoward results.

Nine cases are cited as illustrative of the effects of radium in the destruction of basal-celled cancer. Accompanying this paper are several excellent photographs showing the effects of radium in these cases.

THE USE OF TRANSPLANTS FOR THE RELIEF OF CANCEROUS DEFECTS TOO LARGE TO CICATRIZE AFTER THE DISEASE HAS BEEN CONQUERED BY THE USE OF RADIUM.  
JOHN M. LEE, p. 12.

## RADIUM THERAPY WITH SPECIAL REFERENCE TO THE USE OF RADIUM IN DERMATOLOGY. FRANK EDWARD SIMPSON, p. 16.

Simpson is of the opinion that radium and the roentgen rays act in different manners on the skin and other tissues. The roentgen rays while a splendid selective are in general a poor destructive agent. In some diseases roentgen rays are much more convenient and efficient than radium, while in a certain restricted and peculiar field of dermatology radium holds an absolutely unique position.

Radium offers a possibility of use in the following groups of conditions: (1) Dermatoses in which it is desirable to remove the hair; (2) dermatoses in which it is desirable to diminish the size or function of the sebaceous or sweat glands; (3) dermatoses due to various bacteria. The bactericidal effect of radium is not marked, but indirectly, by destroying tissue of low resistant power, radium may be of great value in certain of these dermatoses; (4) dermatoses characterized by an inflammatory, indurated condition of the skin in which it is desired to stimulate the metabolism of the skin; (5) dermatoses characterized by infiltration of malignant cells, such as carcinoma and sarcoma, or by an infiltration of cells of low vitality, as in leukemia. In this category are also included various tumors, especially keloids and nevus pigmentosus;



(6) angiomatous and lymphangiomatous tumors; (7) dermatoses in which epithelial hypertrophy or hyperplasia is a prominent feature; (8) localized itching dermatoses.

THE ADMINISTRATION OF NOVARSENO BENZOL PER RECTUM.  
LEO E. GRAJEWSKI, p. 22.

The writer recommends the rectal administration of novarsenobenzol in those cases of syphilis in which intravenous injection is difficult or impossible. The advantages of this method of administration are as follows:

(1) Suppression of constitutional and local consequences that sometimes follow intravenous injection; (2) ease with which it can be applied to the young; (3) the complete absence of untoward consequences; (4) rapidity and simplicity of its preparation; (5) rapid absorption of the drug from the rectum; (6) equivalence of the results obtained. It is a perfectly safe and easy method which enables one to treat syphilis in a way and with a remedy that is recognized to be indispensable in combating the disease.

ANGIOMA WITH HYPERKERATOSIS. SHINICHI MATSUMOTO, p. 24.

The writer reports an atypical form of angiokeratoma of Mibelli. The condition was observed on the edges and bordering dorsal aspects of both feet and differed from the usual description of the disease, in that there were no warty growths.

*(Ibidem, February, 1919, 23, No. 2)*

THE STATUS OF THE ROENTGEN RAY IN HYPERTRICHOSIS.  
ALBERT C. GEYSER, p. 94.

Geyser states that the roentgen ray will cause the destruction of the hair follicles in less time than any other agent known. His method consists in the administration of a massive dose and after the hairs have been shed, the administration weekly of a therapeutic dose. However, he advocates the employment of the roentgen rays for hypertrichosis only when all other agents have been tried and failed.

THE PATHOLOGICO-ANATOMICAL ALTERATIONS CAUSED IN  
THE HEALTHY SKIN BY CHRYSAROBIN ACTION. W.  
KOPYTOWSKI, p. 97.

The writer found the following changes in scrotal skin which had received daily inunctions with a 10 per cent. to 12 per cent. chrysarobin ointment for from two to four days. In the epidermis the stratum corneum showed a parakeratosis with nuclei staining sepia brown and the rete layer a hyperplasia. The corium showed a disintegration of the pigment cells and a lymphocytic infiltration. There was also a dilatation of the blood vessels with hyperplasia of the endothelium.

## Notice

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The United States Interdepartmental Social Hygiene Board, through its executive secretary, Dr. T. A. Storey, Washington, D. C., announces the following recent appropriations from the Scientific Research Fund of the Board:

### JOHNS HOPKINS MEDICAL SCHOOL

(Under the direction of Hugh H. Young, M.D., Professor of Urology, and J. T. Geraghty, M.D., Associate Professor of Urology, to Johns Hopkins Hospital.)

(1) Development of new synthetic drugs for the treatment of gonorrhea. Under the direction of E. C. White, Ph.D., Experimental Chemist.

(2) Manufacture and investigation of a series of new organic compounds in the treatment of syphilis. Under the direction of David M. Davis, M.D.

(3) Manufacture and investigation of a series of penetrating organic dyes in the treatment of chancroids. Under the direction of E. O. Swartz, M.D.

(4) Experimental study of various methods of early treatment of venereal infection with the object of developing simpler technic, more efficient and less expensive drugs. Under the direction of William Jack, M.D.

### UNIVERSITY OF WISCONSIN MEDICAL SCHOOL

An attempt to prepare mercurial and arsenical compounds which have a predilection for the central nervous system, in the hope of finding drugs more useful than any known in the treatment of syphilis of the central nervous system. Under the direction of Arthur S. Loevenhart, M.D., Professor of Pharmacology.

### UNIVERSITY OF NEBRASKA COLLEGE OF MEDICINE

(a) "Investigation relative to the development of an internal urinary anti-septic." (b) "Investigation of the value of certain anilin dyes in the treatment of gonorrhea." Both under the direction of E. G. Davis, M. D., Director of Pathological Laboratory.

### ST. LOUIS UNIVERSITY COLLEGE OF MEDICINE

"Studies in infection by gonococci." Under the direction of R. A. Kinsella, M.D., Director of Department of Experimental Medicine.

### WOMAN'S MEDICAL COLLEGE OF PENNSYLVANIA

"A serological study of syphilis in pregnant women and new-born children with special reference to the efficacy of the accepted methods of syphilitic treatment." Under the direction of Berta M. Meine, M.D., Director of the Research Department.

### WASHINGTON UNIVERSITY SCHOOL OF MEDICINE

"The laboratory (biological) investigation of the latent syphilitic as a 'carrier'." Under the direction of Martin F. Engman, M.D., Professor of Dermatology.

### CORNELL UNIVERSITY MEDICAL COLLEGE

"Serological study of the gonococcus group." Under the direction of John C. Torrey, Ph.D., Professor of Hygiene.

## JEFFERSON MEDICAL COLLEGE OF PHILADELPHIA

"A series of studies for the recognition and diagnosis of *treponema pallidum* in venereal diseases, and the effect of various drugs and materials as germicidal agents against *treponema pallidum*." Under the direction of Randle C. Rosenberger, M.D., Professor of Hygiene and Bacteriology.

## YALE UNIVERSITY MEDICAL SCHOOL

(a) "Effect of anilin dyes, particularly Gentian Violet on the gonococcus with reference to the growth of the organism in media containing the dye, and with reference to the effect on organisms in tissue (therapeutic effect)." Under the direction of J. M. Flint, M.D., and J. W. Churchman, M.D., Professors of Surgery.

(b) "An intensive study of methods for the isolation and identification of the gonococcus with a view to the determination of the homogeneity or heterogeneity of strains and their etiological relationships." Under the direction of George H. Smith, M.D., Assistant Professor, Department of Pathology and Bacteriology.

(c) "The demonstration of syphilitic nature of unusual lesions encountered at the postmortem table." Under the direction of M. C. Winternitz, M.D., Professor of Pathology and Bacteriology.

## UNION UNIVERSITY MEDICAL DEPARTMENT, ALBANY

"For studies on the nature of the Wassermann reaction." Under the direction of Thomas Ordway, M.D., Dean, and Associate Professor of Medicine.

The United States Interdepartmental Social Hygiene Board is composed of: Carter Glass, Secretary of the Treasury; Newton D. Baker, Secretary of War; Josephus Daniels, Secretary of the Navy; Lieut.-Col. W. F. Snow, M. C., U. S. Army; Lieut.-Com. J. R. Phelps, M. C., U. S. Navy; Asst. Surg.-Gen. C. C. Pierce, U. S. Public Health Service, and Thomas A. Storey, Executive Secretary.

Up to June 21, the board had approved appropriations from its Scientific Fund for twenty researches distributed among twelve medical schools.

# THE JOURNAL OF CUTANEOUS DISEASES

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## Original Communications

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### THE ALKALI RESERVE OF THE BLOOD IN VARIOUS DISEASES OF THE SKIN \*

HANS J. SCHWARTZ, M.D., OSCAR L. LEVIN, M.D.

AND

H. C. MAHNKEN, M.D.

NEW YORK

The alkali reserve, consisting of bicarbonates, alkali-protein compounds, and small quantities of alkali-phosphates, maintains the plasma at a constant slightly alkaline reaction despite the fact that acid products of metabolism are constantly being passed into the blood. Under normal conditions these substances are present in very constant quantities. A diminution in the alkali reserve is known as acidosis and may be recognized by a variety of clinical symptoms and by characteristic alterations in the composition of the blood, urine, and alveolar air.

#### ALKALINE REACTION OF PLASMA

Let us briefly consider how the slightly alkaline reaction of the plasma is maintained in the face of normal or abnormal acid production. As stated by Hawke, we must consider in this connection:

1. Sodium bicarbonate and carbon dioxid which are present in proper quantity to yield a nearly neutral reaction.
2. The acid monosodium hydrogen phosphate and the alkaline disodium hydrogen phosphate which also are present in proper proportion to yield a similar nearly neutral reaction.
3. The proteins which are amphoteric and therefore combine with acid or alkalies without change in reaction.

Acidosis, according to Van Slyke, is a condition in which the concentration of bicarbonate in the blood is reduced below the normal level. Lawrence Henderson defines acidosis as any disturbance of the

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\* Read by title before the Forty-Second Annual Meeting of the American Dermatological Association, Atlantic City, June 16-18, 1919.

\* From the Departments of Dermatology and Clinical Pathology, Cornell University Medical School and Laboratories of the Beth Israel Hospital.



acid-base equilibrium whereby the power to resist acids in the body is lost.

Beneath all metabolism is a constant diminution of bicarbonate in the blood, and the main change in acidosis is the loss of blood bicarbonate. That this is a serious change can readily be understood in view of the fact that bicarbonate is the third constituent of the blood, water being first and salt second.

Carbon dioxid is being constantly formed in the tissues, is carried by the blood to the lungs, and eliminated as carbon dioxid. The blood is able to take up a quantity of the acid carbon dioxid without any appreciable change in reaction, and thus large amounts of acid are daily eliminated from the body. In this process the bicarbonate of the plasma plays an important part. The body fluids contain free carbonic acid in such amounts that it converts into bicarbonates all bases not bound by other acids. The bicarbonate of the blood represents exactly the excess of base left over after all the nonvolatile acids have been neutralized, and is available for neutralization of further acids. The acid products of metabolism may be volatile, like carbonic acid; or nonvolatile, like sulphuric acid, oxybutyric acid, etc.; the latter permanently unite with the reserve alkali of the blood, producing genuine acidosis. Thus the bicarbonate constitutes the alkali reserve of the body.

The sodium bicarbonate and disodium phosphate also react with acids, such as B-oxybutyric, lactic, etc., forming a sodium salt which is neutral in reaction, a monosodium phosphate which is slightly acid, and free carbonic acid. The carbonic acid and acid phosphate ionize to but a slight degree and therefore the hydrogen ion concentration of the blood is but slightly altered. The acid phosphate is rapidly eliminated by way of the urine, and the carbonic acid by way of the lungs.

#### BUFFER SUBSTANCES OF THE BLOOD

The sodium phosphate and sodium bicarbonate of the blood have been called "buffer substances" on account of their protective rôle in preventing pronounced changes in blood reaction after acid or alkali introduction. If large amounts of acid are continually poured into the blood these buffer substances decrease in amount and finally, when the body can no longer replace the destroyed buffers, acidosis results. Hence, acidosis is a lowering of the alkali reserve of the body. The depletion of the "buffer substances" lowers the power of the blood to carry carbonic acid, and if the depletion is sufficiently pronounced, carbonic acid accumulates in the tissues, stimulation of the respiratory center takes place, and thus gives rise to hyperpnea, one of the clinical symptoms of acidosis.

Acidosis is always secondary, arising during pathologic processes and influencing their course. It may be due to faulty absorption of bases or to an unusual loss of bases from the body; to neutralization by abnormal amounts of acids, either normal or abnormal, or to the failure to eliminate acids. This increased amount of acids may be due to the production of abnormal acids or an overproduction of normal acids, either from ingestion of acids or of foods leading to an increased production of acids.

Acidosis may occur in diabetes mellitus, severe nephritis, in children's disorders—such as diarrhea, recurrent vomiting, food intoxication, etc. The acids known to be produced are acido-acetic acid and B-oxybutyric acid—these, with acetone, being classed as acetone bodies. Acidosis may also be produced in a normal person by proper changes in diet. A diet containing no carbohydrate will generally be followed within twenty-four hours by indication of acidosis. The feeding of a salt-free diet or a diet containing a large excess of acid-forming foods—such as meats, fish, eggs, and certain cereals—may also cause acidosis. In this case, however, the acidosis is not associated with the formation of acetone bodies.

#### DIAGNOSIS OF ACIDOSIS

A high urinary ammonia coefficient, though present in the majority of cases of acidosis, is not necessarily indicative of acidosis, as certain dietetic changes may produce a high urinary ammonia. Furthermore, fatal acidosis has been observed in uremia and in nutritional disorders of infants with no pronounced increase in the ammonia coefficient. Though one of the most characteristic features of acidosis is the production of abnormal quantities of acetone bodies, nevertheless, according to Hawke, "it is the consensus of the best opinion of the present time that acidosis can be best diagnosed and its course followed, not by the determination of acetone bodies in either urine or blood, but by the determination of certain other factors which are more or less typical of acidosis." These include the following:

1. *The Determination of the Alkali Tolerance of the Patient.*—This method is reliable in proving the absence of acidosis, but is not particularly reliable for showing either the presence or degree of acidosis when it exists. This is partly due to the fact that in conditions associated with acidosis the power of the kidneys for the excretion of alkalies may be markedly impaired.

2. *The Determination of the Carbon-Dioxid Tension of the Alveolar Air* (Fredericia's method, Marriott's method).—Because of the liability of error in the collection of the sample, and because of various other factors (psychical, etc.) which may influence the alveolar carbon dioxid tension beside the blood bicarbonate, this method is open to

criticism. Nevertheless, it is of considerable value and has been widely adopted for clinical use.

3. *The Determination of the Hydrogen-Ion Concentration of the Blood.*—An increase in the hydrogen-ion concentration is only noted in cases of uncompensated acidosis. The various degrees of compensated acidosis cannot be diagnosed by a determination of the hydrogen-ion concentration; therefore its determination is of less value in the diagnosis of acidosis than the determination of the alkali reserve of the blood, the carbon dioxid tension of the alveolar air, or the alkali tolerance of the patient.

4. *The Determination of the Alkali Reserve of the Blood; Carbon Dioxid Capacity of the Plasma (Van Slyke and Cullen).*—This consists in saturating a given volume of blood plasma with carbon dioxid. A known quantity of the saturated plasma is then acidified within a suitable pipet and its carbon dioxid is liberated by the production of a partial vacuum. The liberated carbon dioxid is then placed under atmospheric pressure, its volume carefully measured, and the volume corresponding to 100 c.c. of plasma calculated. A decrease in the carbon dioxid indicates a depletion in the bicarbonate of the blood, and hence a *lowering* of the "alkali reserve."

The average normal value in the adult is 65 volumes per cent., with extreme limits of 80 to 53 volumes per cent. In mild acidosis with no pronounced symptoms we get values of 53 to 40 volumes per cent. Values of 30 to 40 volumes per cent. are obtained in cases of moderate to severe acidosis where symptoms may be apparent; and values below 30 volumes per cent. in severe acidosis with symptoms of acid intoxication. This is the method we have adopted in our work. In a small number of cases we have also used Marriott's method for determining the alkali reserve of the plasma—a modification of his method for determining the hydrogen-ion concentration of the blood. Parallel results were obtained with the two methods. All tests were done in duplicate, and in all cases the urine was examined for evidences of nephritis, diabetes mellitus, acetone bodies, etc., with negative results except in two cases of diabetes—one complicated by gangrene of the toes, the other by carbuncles.

In this work our attention has been almost entirely confined to the inflammatory dermatoses. On general principles it seemed more likely that an acidosis might be found associated with this group rather than with the dermatoses classed under the hypertrophies, atrophies, new growths, strictly parasitic affections, etc.

We have examined in all 139 cases, of which eighty, or 59.7 per cent., gave normal values; fifty, or 35.9 per cent., gave values indicating a mild acidosis; five, or 3.5 per cent., values indicating a moderate acidosis, and one, or 0.7 per cent., showed a severe acidosis. This last was in a case of diabetes complicated with carbuncles.

## ALKALI RESERVE OF THE BLOOD IN DISEASES OF THE SKIN

Diseases	Plasma Bicarbonate Carbon Dioxid Reduced to 0 Degrees 760 Mm.			
	80-53 Volume	53-40 Volume	40-30 Volume	Below
	Per Cent.	Per Cent.	Per Cent.	30 Volume
	Normal, No. of Cases	Mild Acidosis No. of Cases	Moderate Acidosis No. of Cases	Severe Acidosis No. of Cases
Sycosis vulgaris (old cases) . . . . .	3	2	..	..
Acne simplex . . . . .	8	5	..	..
Acne indurata . . . . .	3	2	1	..
Lichen planus . . . . .	1	1	..	..
Psoriasis (moderate type) . . . . .	5	0	..	..
Psoriasis (extensive) . . . . .	1	7	..	..
Gangrene toes (diabetes) . . . . .	—	—	1	..
Carbuncle (diabetes) . . . . .	—	—	1	1
Scleroderma . . . . .	1	1	..	..
Urticaria . . . . .	4	4	..	..
Furunculosis . . . . .	5	2	1	..
Pompholyx . . . . .	1	1	..	..
Folliculitis . . . . .	4	1	..	..
Impetigo contagiosa (severe) . . . . .	—	1	..	..
Eczema—subacute . . . . .	8	4	..	..
Eczema—chronic . . . . .	17	10	..	..
Eczema—seborrheic (mild) . . . . .	5	1	..	..
Eczema—seborrheic (severe) . . . . .	1	4	..	..
Eczema—intertriginous . . . . .	3	2	..	..
Dermatitis venenata . . . . .	—	1	1	..
Pruritus vulvae . . . . .	—	1	..	..
Purpura . . . . .	1	..	..	..
Moeller's glossitis . . . . .	1	..	..	..
Erythema nodosum . . . . .	1	..	..	..
Von Recklinghausen's . . . . .	1	..	..	..
Pityriasis rubra pilaris . . . . .	1	..	..	..
Pityriasis rosea . . . . .	1	..	..	..
Dermatitis herpetiformis . . . . .	1	..	..	..
Erythema multiforme . . . . .	2	..	..	..
Pruritus senilis . . . . .	2	..	..	..
Lupus erythematosus . . . . .	2	..	..	..

We realize that the number of examinations made is too small to warrant any definite conclusions being drawn, but we feel that a lowering of the alkali reserve has been found sufficiently frequently in acne, psoriasis, urticaria, furunculosis and eczema—particularly seborrheic eczema—to warrant further investigation.



# AN UNUSUAL CASE OF GRANULOMA ANNULARE\*

ARTHUR W. STILLIANS, M.D.

Professor of Dermatology and Syphilology, Loyola University School of Medicine; Attending Dermatologist, Cook County Hospital; Consulting Dermatologist, Chicago Lying-In Hospital

CHICAGO

## INTRODUCTION

The number of typical cases of granuloma annulare which have been demonstrated or reported since the summary of cases by Graham Little<sup>1</sup> in 1908, is sufficient evidence, as Hartzell<sup>2</sup> says, that the disease is not one of great rarity. I am emboldened to report my case, however, because of the entire absence of ringed lesions, the failure to localize on the hands, its occurrence in a patient who has a persistently positive Wassermann test reaction, and its superficial resemblance to xanthoma.

## REPORT OF CASE.

Miss M., a buxom restaurant cashier, 28 years old, born in this country, could give no data of her family because she became an orphan at an early age. Since she could remember she always had been well, never had a persistent cough or any joint trouble, and had no suspicion of a syphilitic infection until told of her positive Wassermann test. At the age of 19 she noticed a small lump on her right elbow which was tender when subjected to firm pressure, as on leaning on the elbows. Eight months later a second nodule appeared on the same elbow, and after that the number slowly increased. Three years after the onset the left elbow began to be involved, four years after that lesions appeared above both heels, and the next year below the knees. During this whole time she had been in good health and at work, without subjective symptoms except the slight tenderness already mentioned.

On general examination no abnormality of the chest or abdomen was discovered. The blood contained 4,700,000 red cells, with 85 per cent. hemoglobin (Fleischl) and 8,000 white cells, of which 68 per cent. were neutrophil polymorphonuclears, 21 per cent. small mononuclears, 8 per cent. large mononuclears and 2.5 per cent. eosinophils. The urine has been, on several examinations, of normal color and specific gravity, moderately acid, free from sugar, albumin and casts. The von Pirquet test was negative on one of two areas, mildly positive on the third day on the other. The Wassermann reaction was weakly positive, and three repetitions have given the same result.

Over each elbow was a round pad, 0.5 to 1 cm. thick and about 3 cm. in diameter, of a doughy consistence, containing three or four flat, hard plaques, roughly oval, from 0.5 to 1.5 cm. in length. On these pads were groups of round papules, 0.2 to 0.5 cm. in diameter, hard and only slightly elevated, so that it was only by stretching the skin that some of them appeared distinctly

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\* Read before the Forty-Second Annual Meeting of the American Dermatological Association, held at Atlantic City, N. J., June 16-18, 1919.

\* Presented before the Chicago Dermatological Society, January, 1917, Jour. Cutan. Dis. **35**:841, 1917.

1. Little, G.: Granuloma Annulare, Brit. Jour. Derm. **20**:213, 1908.

2. Hartzell, M. B.: Granuloma Annulare, Trans. Section on Dermat., A. M. A., 1914, 27.

papular. Some of them were of normal skin color, but most of them were of a faded, old rose color, many with yellow centers. Several larger oval papules up to 1 cm. in length had been formed by coalescence of two or more of the round papules. There were eighteen papules on the right elbow and about ten on the left. There were other deep flat nodes similar to those in the elbow pads, movable with the apparently normal skin covering them, one over each tendo Achilles, one just below the right knee, one on the left shin, one just below the left elbow and another above the right elbow. Below the right elbow were two in a line extending from the olecranon to the wrist, making a total of forty-three. All of them were hard, most of them giving a sensation of cartilage, but some of the papules felt like shot. The grouping and yellow color led to a provisional diagnosis of xanthoma tuberosum.

The administration of potassium iodid, 10 gr. three times a day, and mercurial inunctions had no effect whatever on the lesions. Salicylic plaster, worn for forty-eight hours, made no impression on them. Roentgen rays short of the erythema dose gave no result. The Kromayer lamp pressed on (without blue filter) long enough to cause a sharp reaction, had no effect on the lesions. Radium, filtered through 4 mm. of aluminum, cleared up the ankle and knee lesions promptly, but those on the elbows were stubborn, requiring a larger dose, which was sufficient to leave a scar in one spot, without clearing up the lesion entirely. Treatment was begun in April, 1916.\*

#### HISTOPATHOLOGY

A papule with a portion of the underlying pad was excised from the group on the right elbow, fixed in formalin and embedded in paraffin. No change of any consequence was seen in the epidermis, except in one area where it was thinned and the papillae and inter-papillary pegs obliterated by pressure. In this same area the papillary layer was filled by infiltrate, but in the rest of the specimen it was normal except for a small collection of cells here and there about the blood vessels. In the reticular and subcutaneous layers were nodes consisting of a central necrosis surrounded by spindle cells and connective tissue fibers radiating outward, making a very striking picture.

The necrotic areas were round or oval, lying for the most part with their long axes parallel to the surface of the skin, as though they might have been formed about the horizontal vessels of the vascular plexuses.

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\* After a long absence the patient returned on May 23, 1919. The deep nodule below the left elbow, over which a scar was left consequent to radium exposures, still persisted as an elastic plate, but softer and less distinct than before. The radium scar had developed many telangiectases. A new group of lesions had developed on the pad over the left elbow, an oval nodule 1.3 by 0.8 cm., slightly elevated, flat-topped, a somewhat shiny, old rose color crossed by wrinkles which were easily accentuated by picking up the lesion. Through the thin epidermis six yellow points were visible. The pad had the same consistency as before, and the new nodule felt like a group of small shot in the skin, except that the hard points were rough. The patient was in her usual good health and had been so since last seen.

The largest, which was only part of a lesion cut in the biopsy, measured 2 by 0.25 mm. Within them could be seen partly degenerated fragments of fibrous tissue and groups of nuclei. In places were groups of well preserved, deeply stained nuclei of polymorphonuclear leukocytes. Most of the necrotic areas were, however, composed of granular acidophil substance. Frozen sections stained with sudan III showed many fine droplets of neutral fat in the necrotic zone and between the cells of the narrow second zones. Dr. Pollitzer, who kindly examined the sections confirming the diagnosis and offering

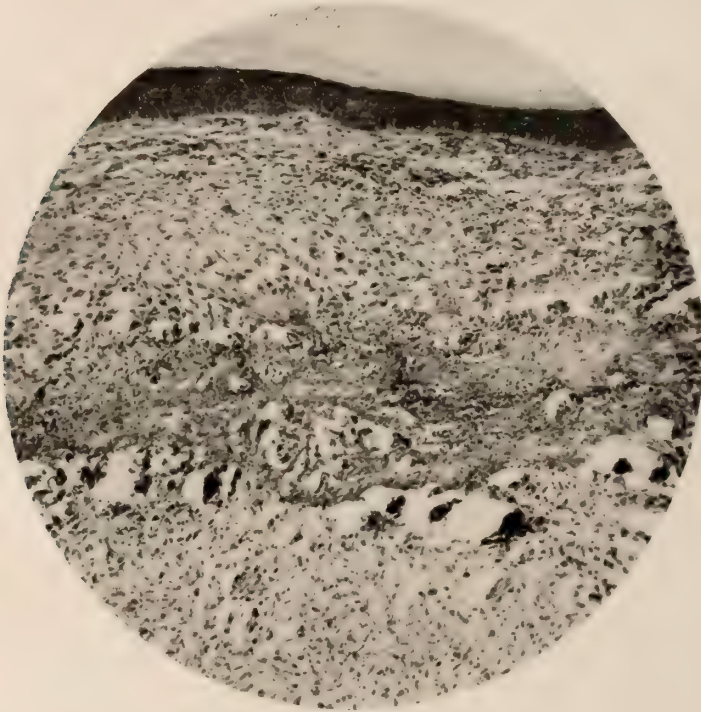


Fig. 1.—Superficial node, compressing the epidermis.  $\times 90$  diameters.

valuable suggestions, found some fat droplets in the proliferated endothelium of one of the arterioles. I take this opportunity to thank him for his help.

The central area was bordered by a narrow zone of spindle-shaped cells with large vesicular nuclei, their long axes at right angles to the edge of the necrosis. A few smaller spindle-shaped nuclei staining deeply were present, and a few epithelioid cells with round or oval nuclei. Most of the large spindle to sausage shaped nuclei contained two nucleoli. Between these cells fine white fibers, staining pink with Van Gieson, were seen running parallel to the long axes of the cells.

The outer zone was several times as thick as the one just described but was made up in the same manner of cells and fibers radiating from the central necrosis. The connective tissue bundles were much thicker than the fine fibers of the previous zone and in addition to the spindle-shaped and epithelioid cells were a few small, round cells with deeply staining nuclei. No elastic fibers were seen in these three zones.

Beyond this the connective tissue fibers ran in all directions, interlacing and separating small groups of spindle, epithelioid and round cells about blood vessels, coil glands and hair follicles. Few poly-

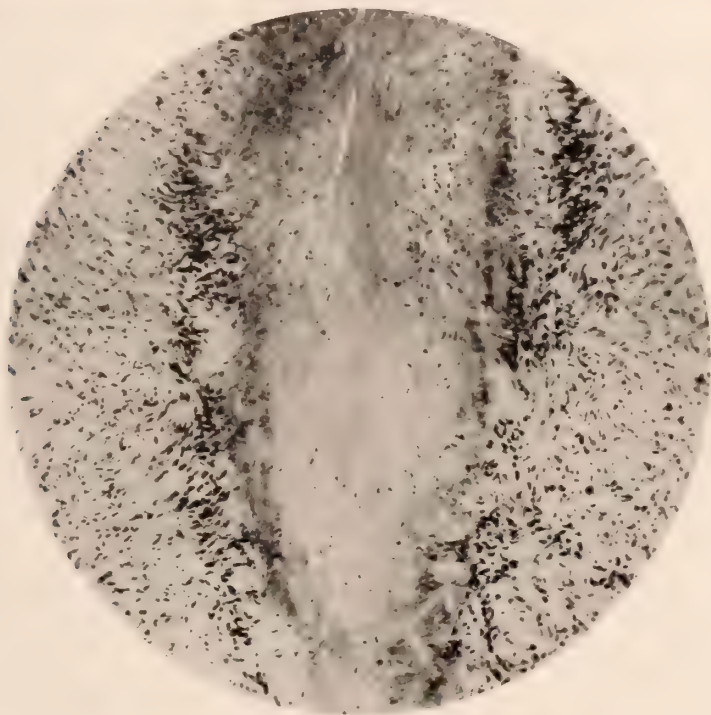


Fig. 2.—Part of a long node showing zones and radiating fibers and cells.

morphonuclear leukocytes and no plasma, giant or mast cells could be found. The fiber bundles were thicker than normal. Many of the blood vessels had much thickened walls but none was actually occluded. One of the nodes was found in the upper corium just under the epithelium, which was thinned and its papillae obliterated by pressure.

The most recent lesion, a small deep nodule on the left shin which had been first noticed about a year previously, was excised, fixed in formalin and embedded in paraffin. Here an infiltrate of the same character as that in the other lesion was seen in the deep corium,



extending down into the subcutaneous layer. It lay beside a hair follicle, about which a small group of cells extended. More round cells in proportion to connective tissue cells were seen than in the first specimen, and a few polymorphonuclears and plasma cells. No necrosis was present, nor was any evidence seen of a radial arrangement of the connective tissue cells or fibers. The cells were in groups between the bundles of fibers, which coursed about as they normally do, but appeared heavier. Several sweat glands were involved by the infiltrate, which seemed to locate about them and the thick-walled blood vessels.

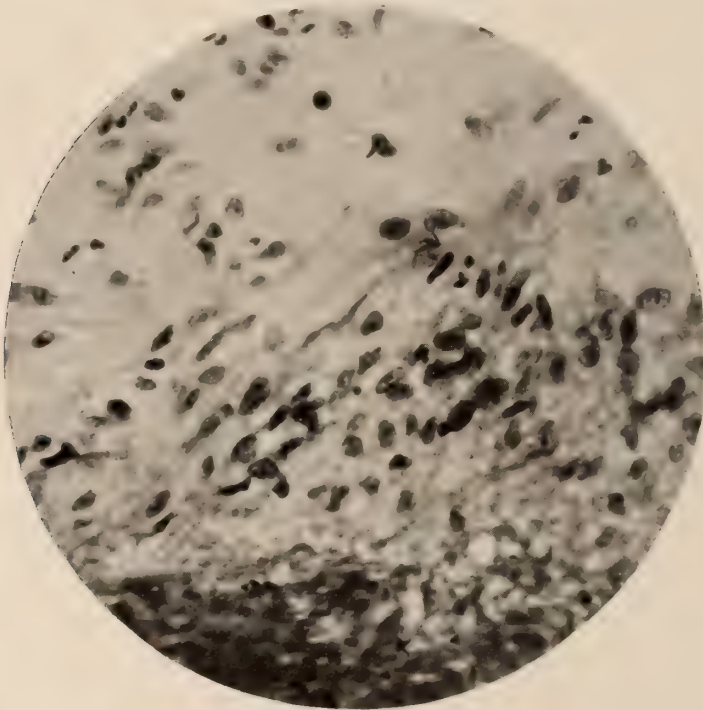


Fig. 3.—Epithelioid and spindle cells at border of necrosis.  $\times 375$  diameters.  $\times 110$  diameters.

Search for bacteria was fruitless in both specimens, as was the search for tubercle bacilli.

#### REVIEW OF THE LITERATURE

Few cases of granuloma annulare with no ringed lesions are on record. Hutchinson's<sup>3</sup> first case, a florid gouty man of 58, had nodules on the hands and on the left elbow, and later developed them on the legs. The nodules grouped to form patches, were dark purple in color, pressure causing them to become pale yellow only at the border,

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3. Arch. Surg. II, plate lxi, after page 300.

although firm, continued pressure made them flatter, showing that they were somewhat edematous.

Bury's<sup>4</sup> case was a girl of 12 with intermittent albuminuria, who had purplish nodules of leathery or cartilaginous consistency on the hands, wrists and elbows. One patch on the wrist measured  $3\frac{1}{4}$  by  $2\frac{1}{2}$  inches.

No histologic examination of these cases is recorded.

Dalla-Favera's<sup>5</sup> second case was a man of 38, whose nodular lesions over the joints began with an attack of rheumatic pain and macular purpura on the legs. Histologic examination showed an infiltrate of polymorphonuclears, round and connective tissue cells about the blood vessels, with localized degenerations of cells and nuclei in the densest areas. A cure was obtained in two and a half years.

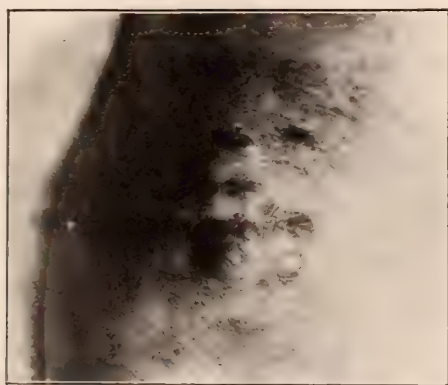


Fig. 4.—Right elbow showing recent recurrent papules.

Audry's<sup>6</sup> case was a strange one, in a boy of 7, beginning with round, violaceous plaques on the cheeks, wrists, elbows, backs of hands and feet and on the legs. Soon after the onset, bullae appeared on the lower extremities and lumbar region and disappeared spontaneously in a few weeks. Two other bullous attacks occurred later, leaving scars surrounded by brown pigment. At the time of examination, the lesions on the cheeks were grouped, round, white papules, considerably elevated, discrete and hard. On the elbows were disk-shaped lesions up to 3 cm. in diameter and 0.5 cm. high. The skin over them was grayish blue and covered by fine varicosities. The lesions in other places were violaceous papules or plaques.

4. Crocker, R., and Williams, C.: Erythema Elevatum Diutinum, Brit. Jour. Dermat., 1894, p. 1.

5. Dalla-Favera, G. B.: Erythema Elevatum Diutinum und Granuloma Annulare, Dermat. Ztschr. **17**:541, 1910.

6. Audry, C.: Des Erythemato-sclerose et, particulièrement, de l'erythemato-sclerose pemphigoïde, Ann. de dermat. et de syph., 1904, p. 1.

Histologically, there was acanthosis, which, however, did not amount to a papillomatous condition. There was great dilatation of the blood and lymph vessels in the deep corium, and endarteritis of vessels below these. The infiltrate consisted of lymphocytes, plasma cells, some mast cells and a few polymorphonuclear leukocytes and many chromatin fragments. Many of the coil glands were involved in this infiltrate, but none wholly destroyed. The connective tissue was somewhat edematous and in places the bundles have become thick, parallel and nearly straight, suggesting a fibrous change. The connective tissue cells were fusiform, but had ceased to branch and anastomose.

Middleton's<sup>7</sup> case was a woman of 39, with between twenty and thirty nodules, pea to hazelnut size, on the right hand and between ten and twenty on the left. A few appeared on the toes, but these disappeared spontaneously. Adherent to the right olecranon was a hard

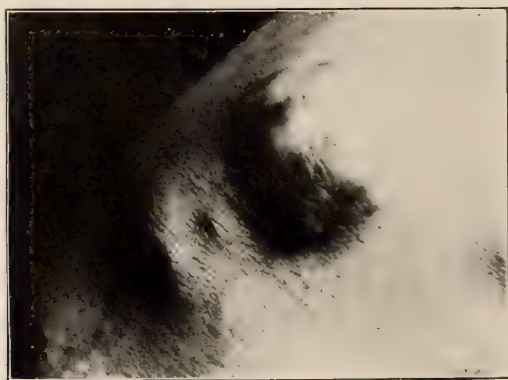


Fig. 5.—Another view of the same.

growth, with a soft pad, like a bursa, above it. There was a fusiform enlargement of many of the tendon sheaths of the knuckles and fingers. Histologically the papillae were obliterated by the stretching of the epidermis over tumors made up of connective tissue in various stages of development. These extended from the upper corium down into the subcutaneous tissue, destroying glands and fat. Many of the blood vessels were thickened by growth of the intima.

Crocker and Williams'<sup>8</sup> case was a girl of 6 with pale purplish-red papules, firm, convex and sharply defined, on knees, buttocks, elbows and hands. Microscopically there was between the epidermis and deep corium a fibro-cellular structure which did not stain as well as normal

7. Middleton, G. S.: A Case of Subcutaneous Nodules in the Hands of a Rheumatic Patient, *Am. Jour. Med. Sc.*, 1887, p. 433.

8. Crocker, R., and Williams, C.: Erythema Elevatum Diutinum, *Brit. Jour. Dermat.*, 1894, p. 1.

tissue. It lay along the upper part of the lower plexus of blood vessels. Between the connective tissue bundles were infiltrating cells.

The case reported by F. J. Smith<sup>9</sup> was that of a girl of 18, who had round or oval nodules over the elbows, wrists and hands. They were bluish red, slightly elevated, and moved with the skin. Microscopically densely matted fibrous tissue with few cells was found.

Hartzell's fifth patient was a boy of 6 with flat, irregularly oval, pinkish plaques of fingernail to lima-bean size on the back of the neck, backs of the hands and outer side of the right leg. The lesions had appeared suddenly six weeks before examination. The histologic picture of granuloma annulare was typical and complete, the first case with no annular lesions to show the complete picture, and to demonstrate conclusively that this group of cases really belongs to granuloma annulare. Areas of necrosis were surrounded by radiating spindle



Fig. 6.—Right elbow as first seen, showing pad and below it bulging caused by deep node.

cells and oval epithelioid cells. No giant or plasma cells were found and few polymorphonuclears. About the blood vessels many lymphocytes with few epithelioid cells were seen. This infiltrate extended from the subpapillary layer to the hypoderm.<sup>10</sup>

Of the nine cases (including mine) two lacked microscopic data and one, Middleton's, was described so briefly that the histologic picture was not made clear. Dalla-Favera's showed an infiltrate of round, polymorphonuclear and connective tissue cells with localized degeneration, which seemed to be of minor importance. In Audry's case the connective tissue cells played, apparently, a minor rôle to an infiltrate of lymphocytes, mast, plasma and polymorphonuclear cells. The cases of Crocker and Williams and F. J. Smith belong with the one of Hyde

9. Smith, F. J.: A Case of So-Called Erythema Elevatum Diutinum, *Brit. Jour. Dermat.*, 1894, p. 144.

10. Hartzell, M. B.: Granuloma Annulare, a Report of Five Cases, *Trans. Sect. on Dermat., A. M. A.*, 1914, p. 27.



mentioned by E. Graham Little as resembling keloid. Only the last two of the nine have given a clear microscopic picture of granuloma annulare, which is in sharp contrast to the large proportion of the ordinary annular lesions of the disease giving the typical histology.

#### DIFFERENTIAL DIAGNOSIS

With a typical histology, or when annular lesions appear, even though few, the diagnosis is not difficult, but without both of these, and with many deep cutaneous or subcutaneous nodules and plaques the resemblance to the subcutaneous group of sarcoids or to Wende's nodular tuberculosis of the hypoderm is close enough to be troublesome. Subcutaneous sarcoids occur usually about the shoulders, loins, hypochondrium and flanks, forming deep, hard, round or oval nodules up to the size of a large nut, which have a tendency to appear in chains along the blood vessels. Their microscopic appearance is more that of the tubercle, with plasma and giant cells, but with less indication of encapsulation than is seen in the sarcoid of the Boeck type, thus approaching the characteristics of the non-necrotic nodules of granuloma annulare. At least one case of this type of sarcoid has been proven tuberculous by animal inoculation.\* Granuloma annulare occurs by preference over bony prominences, as the elbows and knees, hands and feet, but also on buttocks, thighs and nape of neck. Superficial papules or nodules are hard, violaceous or waxy, and never show any tendency to ulcerate. In the lesions which have not progressed to the stage of necrosis the infiltrate lies between the reticular and often swollen connective tissue bands, and surrounding blood vessels and coil glands at the periphery of the lesion. Giant cells are seldom found and plasma cells are still more infrequent.

Wende's case of nodular tuberculosis of the hypoderm was localized to the face, the nodules were quite tender, and on microscopic examination showed typical tubercle formation with bacilli in and between the giant cells.

The resemblance to xanthoma in my case, due largely to the yellow centers of the papules, was the result of very superficial necroses, as seen in the sections. Only one previous case has been reported in a syphilitic, the first of Darier's, mentioned by Graham Little,<sup>1</sup> a woman who also had diabetes. Treatment of the diabetes had no effect on the lesions. That the abnormal quantity of serum lipoids causing the deviation of complement in my case might be related to granuloma annulare instead of syphilis is very improbable, for there probably have been Wassermann tests done on these cases that have not been mentioned in the reports.

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\* Volk: Wien. klin. Wchnschr., 1913, No. 36.

## PATHOGENESIS

Whatever the toxic or living irritant to which granuloma annulare is the response, all authors agree that it emanates from the blood vessels. That it is peculiar to this disease is demonstrated by its chemotaxis, which is able to line up connective tissue cells in irregular ranks, pointing toward the source of irritation. As the necrotic mass is slowly absorbed these cells form new connective tissue, younger in the second zone next the necrosis and older in the outer zone. The only resemblance to this pathologic phenomenon is that mentioned by Arndt,<sup>12</sup> the tendency sometimes seen in tubercles for the epithelioid cells to arrange themselves radial to the center of the tubercle. The chemotaxis calling for such an arrangement in granuloma annulare is many times more vigorous than that in the tubercle, and there is none of that strong tendency toward capsule formation that manifests itself in the tuberculous process.

If the first stage of the process is the infiltration between the reticular fiber bundles and the second the formation of necrotic nodes with radial arrangement of cells and new fibers, the third is probably either restitution to the normal as is seen in the center of many of the annular lesions, or an approach to keloid as mentioned in a few cases. The tendency for the lesion to form over bony prominences lends some ground for the suspicion that irritation may play a part in the pathogenesis, as it does in xanthoma.

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12. Arndt, G.: Zur Kenntniss des Granuloma Annulare (Radcliffe Crocker), *Arch. f. Dermat. u. Syph.* **108**:229, 1911.

THE NEURODERMATOSES AND PSEUDO-LICHENS:  
A CONSIDERATION OF THEIR NOSOLOGICAL AND CLINICAL  
FEATURES \*

FRED WISE, M.D.

Instructor in Dermatology and Syphilology, Columbia University, College of  
Physicians and Surgeons; Chief of Clinic, Department of  
Dermatology and Syphilology, Vanderbilt Clinic and  
Mt. Sinai Hospital Dispensary

NEW YORK

INTRODUCTION

It is my object in this paper on the neurodermatoses to discuss as briefly as an intelligible presentation of the subject will permit, certain peculiar morbid changes in the skin, to which a sufficient variety of names has been allotted, the most familiar being lichen simplex chronicus, lichen chronicus circumscriptus, neurodermitis, prurigo circumscriptum and pruritus with lichenification. Only the salient features can be presented, since an exhaustive article is impossible within the time and space limits at my disposal. Having discussed the more important views of different authors and different schools of dermatology, a brief report of my own observations, based on clinical and microscopic studies, will be submitted.

NEURODERMITIS AND THE FRENCH SCHOOL OF DERMATOLOGY

To the French school of dermatology, represented among others by Besnier, Brocq, Jacquet, Vidal and Darier, there is nothing that is either puzzling or confusing about this subject. They have written exhaustively and voluminously on all phases of it and have long ago arrived at definite and unalterable conclusions. Brocq's<sup>1</sup> views were first published over twenty years ago, and it is due in great part to the lamentable fact that his works have not been translated into English that the great majority of the younger American dermatologists seem to have only the vaguest conceptions regarding the French ideas about neurodermatoses. Strange as it may seem, a perusal of Darier's *Précis de dermatologie*<sup>2</sup> shows that even he does not strictly adhere to the

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\* From the Department of Dermatology and Syphilology, College of Physicians and Surgeons, Columbia University.

\* Read (in part) before the Forty-Second Annual Meeting of the American Dermatological Association, Atlantic City, June 16-18, 1919.

1. Brocq, L.: *Traité Elementaire de Dermatologie Pratique*. Tome ii. O. Doin et fils, Paris, 1907, p. 35.

2. Darier, J.: *Précis de Dermatologie*. Masson et Cie., Paris, 1909.

teachings of Brocq and Jacquet,<sup>3</sup> for he groups the neurodermatoses together with the prurigos and prurigo-like affections, while Brocq barely mentions the latter in his footnotes; he deals with the prurigos under an entirely separate heading. With a certain amount of dissension prevailing in the French camp of dermatologists, it is little wonder that more or less confusion reigns in the foreign camps with regard to a hard-contested matter which still threatens to remain a subject for sterile controversy.

#### NOMENCLATURE

The various chronologic phases and steps leading up to the modern French conception of the neurodermatoses are painstakingly described by Brocq, and have only recently been recounted by Highman<sup>4</sup> in his chapters on the lichens and lichenification; and since the latter contributions are readily accessible, it would be superfluous for me to go into details with regard to this aspect of the subject. With these developmental phases are closely linked the names of Willan, Bateman, Vidal, Besnier, Brocq,<sup>5</sup> Jacquet and Bodin.<sup>6</sup> To avoid confusion as to titles, it should be said that Willan and Bateman's old designation of lichen circumscriptus with reference to circumscribed seborrhea corporis, has long ago been discarded, although it is still mentioned by Crocker and other English authors. The lichen simplex acutus of Vidal corresponds to prurigo mitis, lichen urticatus, strophulus, or what we usually designate infantile papular urticaria of the chronic type; Brocq describes this common affection under the title of prurigo simplex acuta. Emphasis is placed on the name *lichen simplex acutus*, in order to distinguish it from *lichen simplex chronicus*; the two conditions are entirely different. Lichen simplex acutus represents a form of persistent papular urticarial eruption, not properly included under the head of neurodermitis; lichen simplex chronicus is synonymous with neurodermitis or pruritus with lichenification (Brocq). It is hardly necessary to say that such names as lichen simplex and strophulus have no place in modern nomenclature and should be discarded; and in the process of weeding the large crop of superfluous names, it would be a boon to the students and teachers of dermatology if we would also eliminate the terms lichen simplex chronicus and lichen chronicus circumscriptus et diffusus, for there are few designations in cutaneous medicine which can vie with these in unsuitability and inaptitude.

3. Brocq, L., and Jacquet, L.: In *La Pratique Dermatologique*, by Besnier, Brocq and Jacquet. Tome iii. Masson et Cie., 1902, p. 141.

4. Highman (Heimann), Walter J.: Histopathology. Chapter vii. The Lichens: Lichenifications and Neurodermitis, *THE JOUR. CUTAN. DIS.*, **35**:26, 1917.

5. Brocq, L.: *La Pratique Dermatologique*, Tome iii, p. 119, where references to preceding authors in the text are given.

6. Jacquet, L., and Bodin: *Dermatoses d'Origine Nerveuses*, in *Précis de Dermatologie*, by Brocq and Jacquet. Masson et Cie., Paris.





Fig. 1.—Neurodermitis localized. Girl, aged 12, showing areas of lichenification in popliteal spaces. Patient has asthma.

The neurodermatoses are not lichens, despite the fact that an occasional example of lichenification will so closely simulate lichen planus that the resemblance between them is far stronger than their difference. Let the name lichen be reserved exclusively for lichen planus with its large family. Brocq's designation, *neurodermitis circumscriptus et diffusus*, which he finally applied to the neurodermatoses, seems to me to be the least objectionable, if we accept the condition as representing a disease entity.

#### VIEWS OTHER THAN THOSE OF THE FRENCH SCHOOL

Dermatologists other than those of the French school, with few exceptions, interpret the lesions of neurodermitis as manifestations of either prurigo or eczema. Sequeira describes Vidal's lichen simplex



Fig. 2.—Neurodermitis localized. Same patient as Figure 1, showing primary lichenification in cubital area of right arm, with papules and crust formation due to scratching.

chronicus under the caption of circumscribed prurigo, a classification which agrees with that of Darier.<sup>2</sup> Stelwagon regards the disease as a chronic papular eczema. Pusey says that "In spite of the distinct identity given to this condition by the French school and certain American authors, the propriety of distinguishing it from chronic papular eczema may well be questioned." But he concedes that "it is, however, a characteristic symptom complex, which deserves at least nosological identity." Ormsby agrees in substance with Pusey. Sutton inclines more toward Brocq's interpretation, and Hartzell also agrees with the French school. In this country, the most recent contribution to the subject is that of Highman,<sup>4</sup> who maintains that "neurodermitis

is not eczema, but a disease *sui generis*." The majority of German and Austrian writers look on the disease as a form of eczema; among the exceptions, however, is as keen a clinician as Jadassohn, who regards Vidal's lichen simplex chronicus as an entity (Third International Congress of Dermatology, 1896, p. 70).

NOSOLOGY, ETIOLOGY AND SYMPTOMATOLOGY OF NEURODERMITIS OR PRURITUS WITH LICHENIFICATION

In reading over the French and English literature on neurodermitis, I was struck by the fact that the English and American textbooks and monographs, if they mentioned the subject at all, merely touched the surface. The salient points were brought out, but a great deal of important and quite pertinent matter was omitted. A careful perusal of some of Brocq's and Jacquet's contributions served to enlighten me on several points which had hitherto been frequent sources of con-

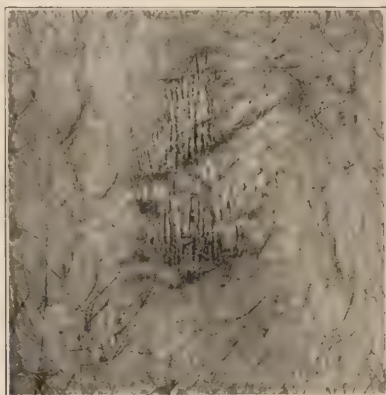


Fig. 3.—Neurodermitis localized. Showing an early lesion with pronounced lichenification in popliteal space of the left leg of a man.

fusion in my daily clinical work. No just criticisms can be made of Brocq's writings until a more intimate knowledge of his views and opinions has been acquired by the critic.

Under the title of "The Neurodermites or Pruritus with Lichenification," Brocq\* describes *circumscribed pruritus with lichenification* and *diffuse pruritus with lichenification*. In this group of cases the appearance of the pruriginous tissues gradually becomes modified under the influence of scratching and various forms of trauma, until sooner or later, depending on the case, the symptoms of lichenification make their appearance.

(1) CIRCUMSCRIBED PRURITUS WITH LICHENIFICATION (*Chronic circumscribed neurodermitis; lichen simplex chronicus* of Vidal).—Mode of onset: The

\* Brocq, L.: *Traité Elementaire de Dermatologie Pratique*, O. Doin et fils, Paris, 1907.



development of circumscribed pruritus with lichenification was followed almost from day to day. It was seen beginning at any region of the body surface as a limited pruritus without an objectively demonstrable cutaneous lesion. This pruritus was almost invariably intermittent; it occurred in attacks separated by periods of complete or nearly complete quiescence, with regular or irregular recurrences, often returning at night, soon after the patient had retired. A permanent pruritus with paroxysmal attacks was not so common. The severity of the disease is variable, depending on the reaction of the person, his susceptibility and his environment. Violent emotions, overeating or the ingestion of foods which do not agree with the patient, are occasional causes capable of inciting the attacks.

*Mode of Production of the Cutaneous Lesions.*—At the outset there is absolutely no visible lesion on the part of the integument; gradually the tissues change as a result of scratching; they first lose their normal color and assume a slightly dusky and at the same time, pinkish tint; on close inspection the



Fig. 4.—Neurodermitis, localized. Showing a lesion in the popliteal space, more advanced than that in preceding cut, and showing excoriations.

skin is seen to present a finely granular and mottled appearance. At this stage it is already possible to discern in certain localities, under varying illumination, a sort of flattened, poorly outlined, somewhat glistening, very minute pseudo-papule formation. Later on, these lesions become more pronounced, the tissues assuming a dusky red color or becoming distinctly pigmented; they are roughened and begin to be furrowed by fine criss-cross lines. The dermis gradually thickens, becomes infiltrated and the disease finally assumes a truly pathognomonic appearance.

*Aspect of Lesions in the Stationary Period.*—Having reached its stationary stage, circumscribed pruritus with lichenification has the general form of a more or less extensive patch of variable dimensions, but having an average diameter of from 5 to 15 cm. in its greatest axis. Its outline is extremely variable according to the case and to the affected region. Although usually of oval shape, it may also be crescentic, semi-circular, or irregularly triangular. It may develop at any part of the body surface. The regions most frequently



attacked are the neck, upper and internal aspects of the thighs, the loins, the inner gluteal fold, the lower and outer portion of the leg, the scrotum in the male, the labia majora in the female, the waist in women from pressure of the corset, the popliteal and axillary (cubital?) spaces, the palms of the hands, the soles of the feet and so forth. It may occur also in linear bands or streaks, or after the fashion of a belt. These patches may be single in a given subject and always remain single; they may be multiple; very often they are two or three in number. Sometimes they are symmetrical, especially when situated in the flexures.

A complete patch of circumscribed pruritus with lichenification comprises three concentric zones: (1) first or external zone. The first or outer zone

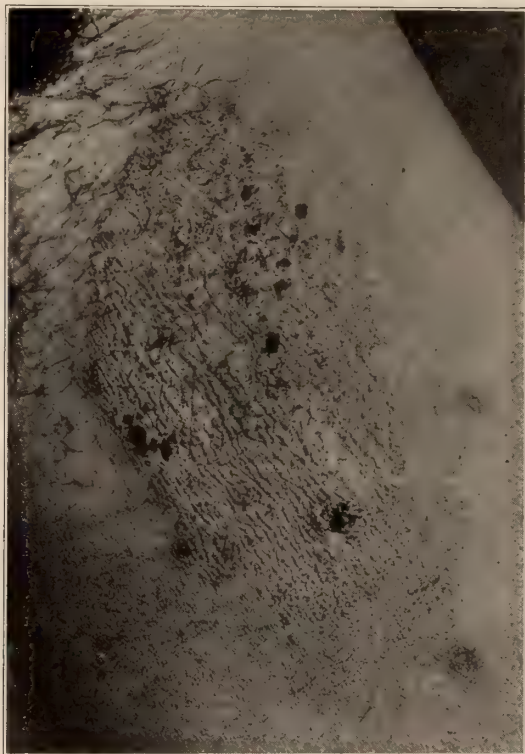


Fig. 5.—Neurodermitis, localized. Showing lichenification and excoriation of the skin, anterior and inner surfaces of left thigh of a man.

forms a sort of irregular belt of variable width—from a few millimeters to two or three centimeters—around the patch. It may be absent at some point of the periphery. The color almost invariably increases in depth as the middle zone is approached; varying sometimes in the same patch from light *café au lait* to light brown or brownish-yellow. On close inspection the papillae of the dermis seem to have undergone considerable hypertrophy at this area, imparting to it a somewhat velvety appearance. It presents a fine cross-hatched arrangement, made up of rows of parallel grooves, intersected at right or sharp angles to outline minute squares or lozenges. The dermis at this area is only very slightly thickened; the infiltration is practically imperceptible when the tissue is grasped between the thumb and index finger. The outer border

of this zone is indistinct, blending with the healthy skin; the lesion gradually increases in intensity as it approaches the internal border which fuses with the middle zone. This external zone, or zone of incipient papillary hypertrophy, is frequently absent, so that it is by no means characteristic.

(2) Second, middle or papular zone: The second, middle or so-called papular zone may comprise the outer zone, the first zone being absent. It likewise may occasionally be altogether absent. In that case, however, it has almost invariably existed during the first stages of the disease, and has only gradually disappeared as a result of the progress of the lesion. When it is distinct, it is characterized by the presence of a lesion which often resembles a lichen planus papule. The papule of the disease under consideration is a sort of prominence of irregular shape and outline, usually rather imperfectly outlined, distinguishing it from the initial papule of lichen planus. The size varies from that of a small pinhead or millet seed to that of a small lentil; sometimes large red and swollen papules are found, with or without excoriations. The usual color is a slightly grayish or yellowish light pink;



Fig. 6.—Neurodermitis, localized and diffused. - Showing lichenification, crust formation and a complicating eczematoid eruption of the forearm. Flexor surface of forearm of a woman.

this hue may deepen in certain instances, becoming brownish-red, and more rarely, bright red. The crest of the papule is often flattened, smooth, nacreous; it glistens under different illuminations so that it might be confused with the initial lesion of lichen planus, of which it has neither the exact outlines nor the special tint nor the neoplastic appearance; but the diagnosis nevertheless meets with great difficulties in some cases. Sometimes, on the contrary, the crest of the papule is rounded; or instead of being smooth and glistening, it is covered with fine grayish or whitish gray, adherent scales; finally, it may present a sanguinolent crust, indicating excoriations due to scratching. These papular prominences seem to be due to a more advanced degree of papillary hypertrophy than exists in the external zone. Very close inspection sometimes reveals a sort of villous condition on this surface. These papules are not directly related to the hair follicles, and downy hairs can sometimes be seen emerging from the intervals of the papules. The papular zone may be largely absent or be very slightly developed when the external pigmented zone is present. When papules exist, they do not always form a continuous band

around the central infiltration-zone; gaps are sometimes in evidence. Thus the papular zone may be very irregular in form and extent. The outer border is made up of a few, almost invariably isolated lesions of small dimensions, scattered about without order. As the center is approached, the papules become more numerous, fusing in twos and threes, to form more prominent groups, until finally they blend into an area representing the central zone. Papules may exist alone, to the exclusion of all other visible cutaneous lesions, being disseminated in these cases over the entire patch, variably

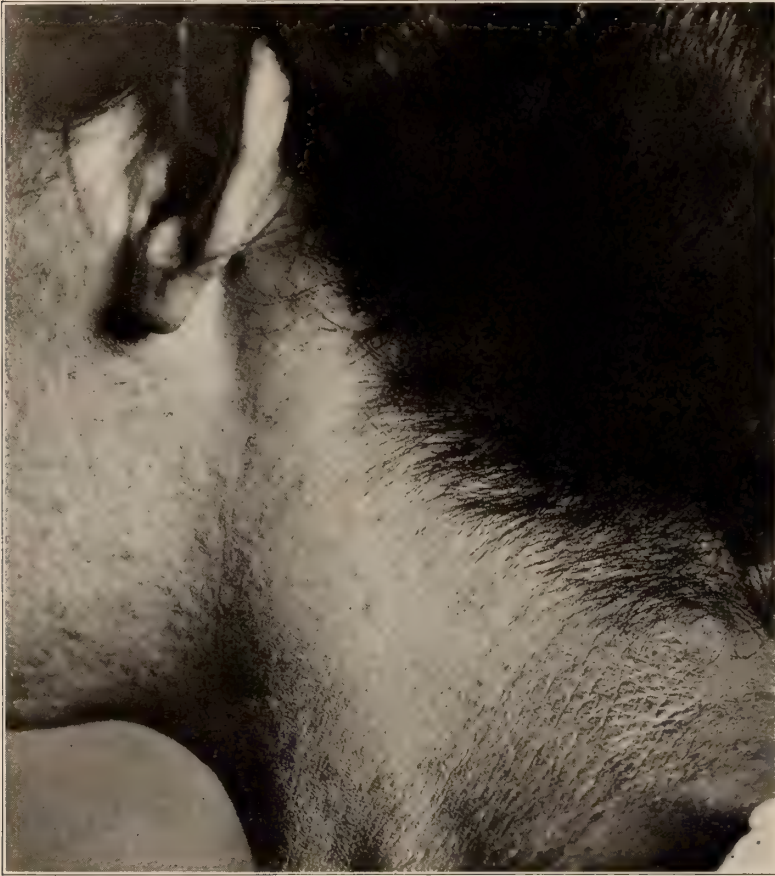


Fig. 7.—Same patient as in preceding cut. Showing characteristic location on the side of the neck, together with a mild papular eczema of the neck and face.

arranged and very close to each other. This purely papular form of circumscribed pruritus with lichenification is relatively rather common; it is most apt to lead to errors in diagnosis, being ordinarily confused with lichen planus. The general coloration of the papular zone varies from a pale pink to dark *café au lait* or brownish-red. The tissues here are fairly distinctly thickened.

(3) Third, internal or infiltration-zone: The third, or internal zone of infiltration of the complete patch, constitutes, as it were, the highest degree, the most pronounced expression of the disease. It follows from what has been



stated above, that it may exist alone, or be altogether absent. The general shape is almost invariably that of a more or less elongated oval, the average dimensions being from 6 to 10 cm. in the long axis, from 3 to 6 cm. in the short axis. The external borders are imperfectly outlined while the patch is undergoing a process of extension, for there exists at that time an imperceptible transition zone between the central infiltration and the papular zone. When the patch is stationary its borders may, on the contrary, be rather distinctly mapped out. Its coloration varies according to the cases, and especially according to the duration of the disease. The general rule is that the tissues become more pigmented in proportion to the age of the lesion. In the same patient and at the same moment, the surface of a patch may present a variegated appearance. Sometimes the center is depressed, of a relatively light color, while the periphery is active; sometimes the center is the most deeply pigmented. Spots of a pale pink, dusky red, *café au lait* or dark brown color are sometimes found scattered here and there, over the affected surface, without order. The patch may be colorless when it develops on a vitiligo, which is relatively common.

The tissues are always thickened and infiltrated in the central portion of the lesion. The thickening is especially perceptible on grasping the skin

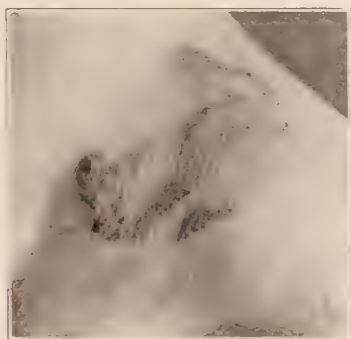


Fig. 8.—Neurodermitis, localized. Showing a circumscribed area on the neck of a man and which resembles lichen planus.

between the fingers, but it is also visible on inspection. Sometimes the patch shows an abrupt margin at its periphery, so that it may project considerably above the level of the surrounding integument. This infiltration varies considerably in different cases, and often even in the same case; the patch may resemble a piece of parchment, or it may constitute an enormous, almost elephantiasis-like hypertrophy of the integument. The surface of the central patch is traversed by more or less regular linear furrows which look as if traced with a fine needle point on soft wax. These furrows are arranged in parallel series, crossing at right or acute angles, depending on the affected regions, so as to impart a shagreen appearance to the patch; they represent cross-hatchings, and outline squares, rectangle and lozenge shaped figures. Occasionally only one series of grooves is well marked. In some instances the criss-cross design is very distinct, marking out prominences which resemble papules. These meshes vary a good deal in dimensions, from 1 to 5 mm. As a general rule, their size increases in proportion to the age of the patch and especially the degree of infiltration of the dermis.

This central area almost invariably becomes covered with scales in those regions where it is not macerated by profuse secretions. The scales are fine, grayish-white or brownish-gray, and adherent; they become more prominent through scratching, which detaches them as fine flakes. Sometimes they con-



stitute genuine horny structures, uneven, dry and roughened. Frequently the surface of the patches presents sanguinolent excoriations or blackish crusts may be seen, subsequent to scratching.

*General Appearance of Patches of Circumscribed Pruritus with Lichenification.*—*A. Complete Patch:* It is rare—as indicated by the above description—for a patch of circumscribed pruritus with lichenification to present the three zones described in the foregoing, at the same time. Sometimes, however, this is the case, and the name of *complete patch* is then applicable. The arrangement is as follows: (1) A somewhat diffuse, pigmented, external zone; velvety, or as if composed of fine, very minute papules, varying from light *café au lait* to a light brown color; (2) a middle papular zone, with lesions which are scattered toward the external boundary and confluent toward the internal boundary, being apparently formed by a much more pronounced papillary hypertrophy than that which characterizes the preceding zone; (3) an internal infiltration zone of more or less uniform appearance, in which area the tissues are hardened, thickened and furrowed by a rectangular or lozenge shaped criss-cross design. This describes the *complete patch* in its fully developed stage.

*B. Incomplete Patch:* At the onset, the patch may consist merely of a certain altered tint of the tissues, which become pigmented; or rather of very

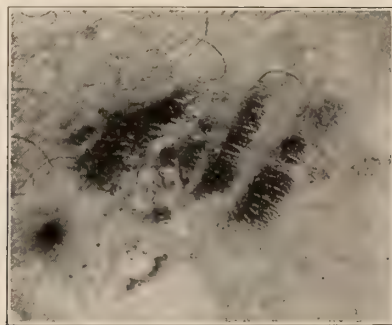


Fig. 9.—Neurodermitis, localized. Showing striated lesions, apparently in the sites of scratch marks, closely simulating lichen planus. Located on the chest of a man.

small, glistening, flattened pseudo-papular lesions, analogous to those occurring in diffuse lichenification. In the fully developed stage the patch may consist only of more or less developed discrete papules, representing the *purely papular form*. In other cases it may consist only of the infiltration zone without distinct peripheral papules, with or without a diffuse pigmented external zone, of a *café au lait* or light brown color.

*Varied Aspects According to Localization:* The appearance of the patch varies also according to its localization. In regions exposed to constant sweating or the seat of profuse secretions, like the inguinal folds, its surface is smooth and devoid of scales. In the depth of the folds, it is sometimes complicated by fissures and cracks. On the palms of the hands and soles of the feet it assumes the appearance of the keratodermias, being covered by yellowish epidermal patches, which are thick, hard and horny, sometimes furrowed by deep, painful cracks.

*Subjective Symptoms.*—Pruritus is the first and cardinal symptom of this disease, the cutaneous phenomena being merely its direct result. Cases exist, however, in which the same pruritus is present without the tissues undergoing visible changes under the influence of scratching; these are cases of pruritus without cutaneous lesions perceptible to the unaided eye. The occurrence of

"chronic lichen simplex" requires a reduction in the vitality of the tissues, in such a way that they react under the influence of scratching in the sense of lichenification. Hence two factors are necessary, namely, an original pruritus and an existing idiosyncrasy with tendency toward lichenification, for the production of the disease. It is equally true, however, that the pruritus is the primary pathologic factor. As was stated by the author (Brocq) in 1896, circumscribed chronic neurodermitis is merely a *circumscribed pruritus which gradually becomes complicated by pure lichenification*. The pruritus is apparently not always equally severe; it becomes especially aggravated in the evening and at night, half an hour or an hour after the patient has retired. It sometimes causes insomnia. It is frequently intermittent and may even be entirely absent during certain stages of the disease. Usually it disappears entirely during the period of retrogression. In certain cases it is of sufficient severity to cause genuine nervous attacks, especially when the patient is prevented from scratching by some artificial device, such as hermetic dressings. Scratching becomes imperative at the time of the attacks of pruritus,



Fig. 10.—Neurodermitis localized. Showing lichenification, excoriations and crust formation. Eczematized form of the affection. Located on extensor surface of the elbow of a man.

and the patient does not rest until he has excoriated the itching region. The character of the sensations sometimes vary. The patients almost always complain of simple pruritus or itching; less commonly, of tingling, pricking, stinging, burning, or a sensation of extreme heat. Pain, touch and heat sensibility is usually normal at the seat of the patches.

*Course, Duration and Termination.*—The duration of a patch of circumscribed pruritus with lichenification varies according to the cases; as a general rule it may be stated that it lasts at least several months and often several years. A patch situated at one spot may disappear, to recur later in the same locality; it may be replaced by another patch situated at another part of the body, sometimes symmetrical with the first. The disease may therefore persist for a very long time, either through the persistence of a single patch, or through the successive development of several patches. The course is therefore extremely variable; the patch may persist for years, growing very slowly at its periphery; it may remain stationary for months or years; it may disappear at the end of a certain time, and in a definite way; it may

recur, after the reappearance of the pruritus; sometimes a series of remissions are observed, separated by periods of activity. Certain individuals are apparently subject to seasonal and periodic attacks.

When a patch is about to disappear the pruritus diminishes, then ceases entirely; the tissues are gradually smoothed out, becoming progressively thin and flexible. A sort of unequal absorption of the central infiltration is sometimes demonstrable, some portions returning more rapidly than others, to the normal condition. The papillary protuberances are thus seen to become pro-



Fig. 11.—Neurodermitis, localized. Showing excoriations and scratch marks. The lesion is of eight years' duration and is the only one on the body. Extensor surface of knee of a woman.

gressively flattened, the criss-cross design losing in distinctness and the skin resuming its flexibility; but in many cases there still persists for a long time a brownish discoloration, with slightly more pronounced cutaneous furrows than under normal conditions, and traces of papules with a glistening surface.

Careful analysis of the conditions serves to confirm the views of the older writers, more particularly Cazenave, who believed that the cutaneous mani-



Fig. 12.—Neurodermitis, generalized. Showing lichenification and pigmentation of the entire body. The patient is highly neurotic and has asthma.





Fig. 13.—Neurodermitis; secondary lichenification of the skin in a girl, aged 12, due to scratching and irritation from pediculosis capitis.

festations of pruritus with lichenification may rather frequently alternate with various visceral manifestations, such as attacks of asthma, recurrent bronchitis, gastralgias, neuralgias or neuroses, etc.

*Varieties.*—This disease does not always develop in a pure form. It may: (1) either be complicated by another dermatosis, or (2) it may develop on the soil of a pre-existing dermatosis which masks it, or which it may mask in its turn at the end of a certain time. *First Group of Cases:*—Circumscribed pruritus with lichenification, in spite of the incessant scratching to which it is exposed, rarely becomes infected with pyogenic microbes. The dermatosis which most frequently complicates it is *genuine vesicular eczema*; not uncommonly *psoriasiform parakeratoses*\* are grafted on it. *Second Group of Cases:* (a) Sabouraud believes that circumscribed pruritus with lichenification often



Fig 14.—Neurodermitis, localized; with the formation of verruca vulgaris limited to the area of primary lichenification, in a girl, aged 9.

develops secondarily to a streptococcic infection. (b) Occasionally circumscribed pruritus with lichenification is seen to *originate gradually on a genuine primary eczema*; in this case, the pruritus remains severe at one point; the patient begins to scratch and the tissues progressively assumes the pathognomonic appearance, in proportion as the typical vesicles cease to be formed in the affected locality. (c) An existing *pityriasis simplex* or psoriasiform parakeratosis especially favors the development of pruritus with lichenification in neuropathic individuals. This objective variety has been previously described by the author in the hairy scalp, where it is relatively common toward the nape of the neck and in the retro-auricular regions. It here assumes the appearance of a considerable circumscribed thickening of the scalp, with an uneven surface, covered with fine, white adherent scales, sometimes stratified

\* Eczema seborrheicum.

in thick layers, which become nacreous through scratching; this lesion is apt to be excoriated and sanguinolent; it is the seat of intolerable intermittent attacks of pruritus. However, this variety of circumscribed pruritus with lichenification developing on the soil of psoriasiform parakeratosis is not limited to the scalp, but may also be observed at any part of the body, more particularly the neck, the nape of the neck, the arms, forearms and the lower extremities. On the limbs, the sites of election seem to be the external aspect of the elbow and the outer portion of the leg. The disease in these cases assumes a rather characteristic appearance; the criss-cross design of the dermis is slightly less marked than in the typical forms; the tissues present a more



Fig. 15.—Neurodermitis, localized; patch of lichenification on the inner surface of the left thigh occurring in a woman with generalized pityriasis rubra pilaris. The other thigh was similarly affected.

distinct dusky yellow color; the scales assume a more nacreous appearance as a result of scratching. The objective features of the neurodermitis become more pronounced, but there always remains a certain peculiar appearance which permits an experienced observer to suspect the nature of the original lesion.

*Concomitant Dermatoses.* — Circumscribed pruritus with lichenification co-exists rather frequently with vitiligo. It was also seen by the author (Brocq) in a patient suffering from morphea. Accordingly it may coexist in the same patient with other dermatoses which are in all probability of nervous origin or at least develop as a result of changes undergone by the nervous system.

*Zoniform Neurodermitis.*—It should be kept in mind in this connection that circumscribed neurodermites have been described as developing along the course of superficial cutaneous nerves or the lines of Voigt. Briefly, the neurodermites would seem to behave like the sclerodermias; there are diffuse forms, generalized forms, circumscribed patches, or bands arranged along the limbs. The analogies in the distribution of the two diseases are very striking.

*Pathologic Anatomy.*—E. Dalous summarizes as follows the histologic lesions of a case of chronic lichen simplex: hyperkeratosis, parakeratosis, hyperacanthosis—such are the changes in the epidermis; there is active proliferation of the cells of the mucous body; diapedesis, spongiosis and vesiculation do not enter into the histologic changes of this dermatosis; where these are noted they are merely complications. The dermic lesions are primarily an irritative process of the connective tissue localized around certain horizontal vessels of the corium, with edema, formation of embryonic capillaries and proliferation of the fixed cells arranged in isolated foci. Some axis-cylinders are swollen, have become transparent and have lost their fibrillary appearance; these are the characteristic lesions. There is an absence of plasmoma, of polynuclears, of vascular dilatation, of congested blood vessels, indicating the existence of an infectious process altogether different from the lesions of lichen planus.

*Diagnosis.*—The dermatosis described above has special features of its own. It differs from *eczema* in its mode of onset, the absence of bright redness, of vesiculation, the formation of small yellowish or brownish crusts, etc. Its evolution is not the same. From the objective as well as developmental points of view, nothing permits its classification under the heading of the true *eczemas*. This confusion has been brought about by its frequent complication with *eczematization*; however, this complication is merely accidental; it is not inevitable, numerous patches of pruritus with lichenification running their course in a perfectly dry state. It is sometimes rather precarious to ascertain if the dermatosis has started from the outset with lichenification or with *eczematization*. However, it is rare for a simple secondary lichenification after an attack of *eczema* to acquire the same importance and the same characteristic aspect as a patch of primary circumscribed pruritus with lichenification.

*Hebra's Prurigo.*—This condition is closely related to the neurodermatoses; but it is not feasible simply to group circumscribed pruritus with lichenification under prurigo on account of its mode of onset at any period of life, its circumscribed domain, its lesser tendency to *eczematization* and especially on account of the absence, in these cases, of the papulo-vesicle or sero-papule which according to the author (Hebra) is pathognomonic of the onset of prurigo.

Circumscribed pruritus with lichenification is even more closely related to the *diathetic prurigo* of *eczemato-lichenoid* objective form of Besnier. It resembles it in having its onset at any period of life, its obstinacy, its remissions and relapses; and it has probably the same pathogenesis. It is much more circumscribed and much less prone to *eczematization*. It is quite apt to be combined with this pruriginous diathesis, of which it may be considered a simple circumscribed variety.

Among all the dermatoses, the one most capable of simulating circumscribed pruritus with lichenification is undoubtedly *lichen planus* or *lichen ruber planus*. The papule of chronic neurodermitis has been shown to differ from the typical lichen planus papule in not having the same accurate polygonal boundaries, the peculiar coloration of a light dusky red, the central umbilication, the *neoplastic aspect* as it were, which causes the lichen planus papule to appear as though bulging, as if it were distended. Moreover, only the clearly papular forms with discrete papules, in the two diseases, lend themselves to comparison; for as soon as the papules of lichen planus accumulate, their surfaces present absolutely pathognomonic streaks of a grayish-white color, which are never seen in circumscribed pruritus with lichenification.



Nevertheless it is true that there are cases in which the differential diagnosis between the two affections is really difficult. This question is further complicated by the fact that when lichen planus is pruriginous, it may be so to a high degree, give rise to scratching, and thereafter become complicated by more or less marked lichenification, either circumscribed or diffuse, which blends with the primary lesions of the original disease, modifying its appearance; so that often it actually becomes entirely submerged in the mass of lichenification. It is obvious that these cases cannot be unraveled and understood except by means of the guiding-thread which is the theory of lichenification. This explains why the distinctly papular forms of circumscribed pruritus with lichenification are considered by the majority of authors, especially in England, as circumscribed varieties of lichen planus.

The differentiation of circumscribed pruritus with lichenification from *horny lichen obtusus* is still more difficult. The author (Brocq) is inclined to interpret the last named eruption as a special form of neurodermitis, for the characteristic lesions of lichen planus are not demonstrable. It therefore seems to be much more closely related than the other varieties of lichen planus with the group under consideration.

It is very difficult to distinguish circumscribed pruritus with lichenification of the palms of the hands and the soles of the feet from the other dermatoses which give rise to keratodermias. Sometimes an accurate diagnosis may be rendered on the basis of the precedence of the pruritus as compared to the cutaneous lesions, the severity of the itching, the absolute dryness of the lesions, and the slight reddening of the subjacent integument.

In many cases, *mycosis fungoides*, in certain stages of its course, is exclusively characterized by more or less circumscribed, more or less diffuse, very pruriginous patches, which become lichenified through scratching, and which may misleadingly simulate patches of circumscribed pruritus with lichenification, sometimes even attacks of diffuse neurodermitis.

## 2. DIFFUSE PRURITUS WITH LICHENIFICATION. (Diffuse Neurodermitis.)

*General Appearance.*—Instead of being circumscribed and limited to narrow regions simulating patches, pre-eruptive pruritus may occupy entire segments of the body, or the limbs as a whole, sometimes even almost the entire integument. The lichenifications subsequent to scratching are then likewise no longer restricted to limited areas, but spread out over wide surfaces—in a word, they are diffuse. Moreover, the pathologic symptoms seem to lose in duration and obstinacy what they gain in extent and in the severity of the pruriginous sensations. The result is a rather special behavior, the disease being the same as in the preceding type, but in a somewhat peculiar form.

From the objective viewpoint the cutaneous lesions consist in these cases of not very well marked, extensive lichenifications, without accurate boundaries. The author designates these affections as *diffuse neurodermitis* or *diffuse pruritus with lichenification*.

*Symptoms.*—Mode of onset: Here again, the first symptom is pure pruritus, more rarely pruritus with urticaria. It is diffuse, but does not usually occupy the entire body; it is symmetrically situated on the arms, forearms, the thighs, the upper portion of the thorax, the back, sometimes on the lateral portions of the trunk, the face and especially the forehead, the malar prominences and the cheeks. The pruritus is almost invariably intermittent, paroxysmal, more rarely continuous.

*Stationary Period.*—Under the influence of scratching the tissues become greatly altered, although in a variable manner in different patients. In certain cases, either as a result of peculiar idiosyncrasies, or due to modifications in the resistance of the tissues referable to the disease, the cutaneous lesions appear almost immediately; in others on the contrary, the tissues are altered only to a very mild degree, weeks being required before lichenification becomes perceptible. In a general way, there exists an entire series of transition forms between these diffuse neurodermites and senile pruritus, which

is typical of the pruriginous affections, where the tissues seem to have acquired a very special resistance against traumatisms. When the cutaneous lesions are in their incipency, they consist of very minute lesions the size of a pin point, the head of a needle or a small pin; of a somewhat dusky rose or light brownish-yellow color; circumscribed without accuracy by the folds of the skin, flattened and with a glistening surface which reflects the light. They accordingly resemble in many details the initial lesion of lichen planus with which they are often confused and from which they can be differentiated on the basis of the considerations outlined above, in the paragraphs on circumscribed pruritus with lichenification. At the onset, the eruption is sometimes characterized by a somewhat dusky, rose-pink redness, on the surface of which a fine granulation is seen that at first sight resembles eczema vesicles; but scratching fails to bring out any serous exudate, the dryness of the integument being absolute. On close inspection it is easy to convince oneself that the granulation is due to a certain degree of papillary hypertrophy. This lesion is on the whole entirely comparable to the external or velvety zone of circumscribed pruritus with lichenification. Gradually the lesions become more pronounced; the pseudo-papular lesions are seen to become more numerous and more confluent; the general coloration of the tissues becomes modified, their hue being decidedly pink, somewhat dusky, or plainly pigmented or brownish. The skin assumes a roughened and shagreened appearance, sometimes slightly velvety; it is rougher and dryer to the touch; on its surface furrows are seen, more or less closely together, depending on the severity of the lesions; very close and superficial, when the skin is slightly infiltrated, which is the rule; rather widely separated and deep, when the skin is thickened and truly indurated. These furrows are usually arranged in parallel rows which intersect at right or acute angles, forming a more or less regular criss-cross design. The tissues thus become gradually infiltrated, in proportion to the duration of the disease; but almost invariably they become thickened and indurated to only a very limited degree. However, it is not uncommon to observe at one or several rather circumscribed points, more or less regular patches of advanced lichenification, with marked infiltration of the skin, forming a slight protuberance above the normal tissues and presenting on their surfaces a fine desquamation. Under these conditions, one is apparently confronted with patches of circumscribed pruritus with lichenification coexisting with diffuse pruritus; and this is perfectly natural, since these are two varieties of one identical disease. The lesions are usually arranged in more or less extensive patches with indefinite boundaries; also they are seen forming rather small but very numerous irregularly outlined patches, connected by less pronounced lesions in the form of pseudo-papules, glistening from the start, scattered here and there in more or less considerable numbers, over apparently still healthy portions of the skin. These pseudo-papules may alone represent the entire eruption in recent cases or in the entirely rudimentary forms.

*Developmental Course; Termination.*—As a rule, after an active stage which may last from one or two weeks to several months, the affection shows a tendency to disappear through gradual diminution of the pruritus, cessation of scratching, and consequently a *restitutio ad integrum* of the integument, the lesions of which heal, as the tissues have not been damaged. Very frequently, however, recurrences follow either at the same points or in other regions, so that the actual prognosis is rather gloomy. Furthermore, beside these relatively rapidly developing forms which might almost be defined as acute or subacute, there are other less common forms in which the pathologic process persists with great severity during months or years and which should really be called chronic cases. These are extremely interesting, representing true transition forms toward senile pruritus. The skin here undergoes rather pronounced changes of pigmentation and even of flexibility. The author has observed cases of auto-intoxication in nervous individuals in whom the attacks of diffuse pruritus with lichenification became replaced by other pathologic manifestations, such as neurasthenia and fixed ideas.

*Nature of the Affection.*—In a general way, the condition is a primary diffuse pruritus which, as a result of the repeated scratching provoked by it, gives rise to a usually imperceptibly marked, diffuse lichenification. The pathologic process is therefore entirely analogous with that of circumscribed pruritus with lichenification, in the course of which it may occasionally develop.

*Diagnosis.*—It would not seem as if the above described condition would be confused with the *eczemas*, but nevertheless they have hitherto very probably been described under the name of dry eczema. In all these cases there is neither a primary dermatitis, nor a primary dry or moist catarrh of the integument. The original eruptions are neither a desquamation of the epidermis, nor a redness of the dermis, nor the special vesiculation which is regarded as characteristic of genuine eczema; there is never even the slightest oozing.

It is unnecessary to differentiate them from Hebra's prurigo, with which they share neither the elementary lesions, nor the onset in the first years of life, nor the objective appearance.

Between them and the *pruriginous diatheses* of Besnier there exists merely a difference of cutaneous reaction. In the diffuse neurodermites the tissues react only in the form of lesions of pure lichenification; in the pruriginous diatheses of Besnier, they react in the form of eczematization and lichenification, which are combined in variable degrees.

The diffuse neurodermites are likewise very closely related to *senile pruritus*, as stated above. Theoretically senile pruritus is easily distinguished by the total or nearly total absence of cutaneous reactions; this pathologic type involves neither eczematization nor lichenification; it is the ideal neurodermia, a *pruritus sine materia*. Patients are sometimes met with, however, in whom the pruritus persists alone for a certain time without the occurrence of cutaneous lesions; then, at the end of a year or several years, the lesions of pure diffuse lichenification manifest themselves. Hence, an entire series of transition forms must be admitted between our neurodermites and our neurodermias.

Diffuse pruritus with lichenification sometimes simulates the diffuse form of *lichen planus*, but the small glistening facets of the diffuse lichenifications are quite easily distinguished from the objective viewpoint, from the neoplastic papules of lichen planus.

*Etiology and Pathogenesis of Pruritus with Lichenification.*—These affections are most prone to occur in women, mostly adults; their age of predilection is in middle life, from 20 to 50 years. They seem to develop on a neuropathic soil, as a result of various intoxications and auto-intoxications. Over-indulgence in coffee seemed to the author to play a very important part in this pathogenesis. Lichenification might almost be said to be the cutaneous expression of "coffee-ism"; alcoholism, abuse of tea, kidney disease, etc., are also to be mentioned in this connection.

Among the personal antecedents of these patients, the author has noted chronic bronchitis, emphysema, asthma, rheumatic pains, sciatica, furunculosis, leukorrhea, hemorrhoids, urticaria, the different forms of eczema, lichen planus. The condition has been observed repeatedly in diabetes. Sedentary occupations seem to favor their development. Sufferers from this affection are always in a rather pronounced state of nervousness; sometimes in the form of simple nervous suggestibility or overstrain; sometimes of more or less marked neurasthenia; at other times, although more rarely, they have a genuine neurosis.

As determining causes of the pruriginous attacks, the author has noted grief and sorrow, financial losses, death of beloved friends, worries, pre-occupations, severe frights and emotional disturbances of all kinds.

In the diffuse neurodermites, the pathogenic rôle of concussions and overstrain of the nervous system is apparently still more constant and more pronounced than in the chronic circumscribed neurodermites. Seasonal changes, and especially extreme heat, sometimes intervene in the determination of the attacks.



## AUTHOR'S OBSERVATIONS

*Histopathology.*—The histopathologic changes occurring in the various forms of lichenification have been studied and described by Dalous, Brocq and Jacquet, Marcuse, Tommasoli, Kreibich, Fabry, Vignolo-Lutati, Darier and others. The most recent study was made by Highman,<sup>4</sup> in the dermatologic department of the Vanderbilt Clinic. Highman has contributed a thorough exposition of the subject from the histopathologic standpoint, including a brief résumé of the findings of other investigators. His article is readily accessible, and those who are interested in a detailed histopathologic description of the disease will profit by its perusal.<sup>7</sup>

For purposes of microscopic study, I obtained six biopsies from six patients who applied for treatment in the last four months. In the choice of these biopsies it was thought advisable to select pieces of tissue which differed in the period of their existence as lesions, in their surface markings, in the amount of infiltration and scaling which they exhibited, and so forth. The accompanying table briefly outlines the chief clinical features of the lesions from which the sections were obtained.

Four of the sections were derived from circumscribed lichenified patches, uncomplicated by secondary infections due to scratching or to the application of irritating medicaments. One section was taken from a patch on the outer and upper portion of the forearm, circular in shape, about one inch in diameter, of three months' duration. The clinical diagnosis was scaly eczema, but the history of the lesion recurring in the same site for the past three years, the appearance of the patch being preceded by itching and scratching, favored the diagnosis of neurodermitis. One section was derived from the chest of a man who had been the subject of neurodermitis for six or seven years (clinic No. 15042). This lesion occurred in the form of three or four linear bands, apparently in the sites of scratch marks. The consistency, color, surface markings, etc., bore a striking resemblance to linear

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7. According to Highman, the chief characteristics of the disease are: (1) Parakeratosis and hyperkeratosis; (2) intercellular edema in the rete and pegs; (3) acanthosis in the rete and pegs, causing elongation of the latter; (4) subepidermal accumulations of serum; (5) hypertrophy of the papillae; (6) edema of the papillae; (7) dilatation of all the papillary vessels; (8) infiltration of the papillae with lymphocytes, fibroblasts and a few mast cells; (9) dilatation of the vessels of the subpapillary plexus and the lymphatics in this area; (10) infiltration of cells (as in 8) about the vessels forming foci; (11) edema and hyperplasia of the collagen; (12) slight edema in the upper levels of the pars reticularis. The negative features of lichenification are: (1) Absence of vesicles in the epidermis; (2) absence of marked hyperkeratinization or marked parakeratosis; (3) absence of excessive fat in the epidermis, vessels, skin glands, and so forth; (4) absence of follicular involvement; (5) absence of disturbance of the pilosebaceous or sweat organs.



lichen planus, but the section exhibited the characteristic alterations of lichenification. It was learned later that Highman had also obtained a biopsy from the same region of the body, perhaps two or three years earlier; this area had subsequently cleared up, only to recur with increased severity, every six or eight months. A comparison of the sections taken by Highman and myself showed very little differences, with the exception of a far more pronounced cellular infiltration in the later biopsy. This patient happened to be an extremely neurotic subject, but, as far as I could learn, he presented no organic disturbances. The last section was obtained from an eczematous area in a patient presenting the circumscribed and diffuse type of the disease (clinic No. 13380).

TABLE 1.—DATA IN SIX PATIENTS FROM WHOM BIOPSIES WERE OBTAINED

Clinic Number	Sex	Age	Duration of Disease	Duration of Lesions	Type of Lesion	Clinical Features
(1) 749	M	32	3 years	2 months	Circumscribed	Roughly margined patch on outer portion of right forearm, just below elbow; circular in shape, about 1 inch diameter
(2) 15042	M	35	8 years	6 months	Circumscribed	Sharply defined patches in left cubital space and upper portion of left side of chest. The latter shows lichenified lesion in three or four linear strands, as in lichen planus over scratch marks
(3) 10118	M	40	3 years	2 months	Circumscribed	Patch about 2 by 3 inches diameter, outer and upper portion of right leg, surface rough and excoriated from scratching
(4) 12427	F	57	3 years	2 months	Circumscribed	Patch on nape of neck, 1 by 2 inches diameter, smooth and lichenified, the upper margin extending into the hair line
(5) 11902	M	26	1 year	1 year	Circumscribed	One well defined lichenified patch on inner and upper portion of left thigh; another circumscribed patch in right popliteal area
(6) 13380	F	45	6 months	6 months	Circumscribed and diffuse	Lesions partly papular and partly lichenified on neck, chest, cubital regions and back. Those on chest are eczematized

A detailed description of the histopathologic features of neurodermitis is not within the province of a paper dealing with the clinical aspects. With the accumulation of more pathologic material serving to embrace a greater variety of lesions that have undergone lichenification, an effort will be made to submit a study of the minute changes that characterize the affection. By way of summary, it may be said that all of the sections exhibited a striking similarity in their minute structure, the variations which did exist being mainly those of degree rather than difference. With regard to the microscopic differentiation from eczema, the outstanding feature was the absence of vesicle formation in the epidermis.<sup>7</sup>

## CLINICAL DATA IN THE AUTHOR'S THIRTY PATIENTS

Thirty patients affected with the various forms of neurodermitis with lichenification, showing quite well-defined lesions, were chosen for this study. Twenty-three of these patients applied for treatment in Dr. Fordyce's service at the Vanderbilt Clinic, since February, 1919. The other seven cases occurred in private practice.

Of these thirty cases, twenty-one presented the circumscribed variety of the disease, four presented the diffuse variety, and five the mixed type of eruption. There were nine males and twenty-one females. The youngest male patient was aged 3 years, the oldest 40 years; the age of predilection was in the second and third decades. Among the females, the youngest was aged 10 years, the oldest 68 years. The age of predilection was in the third and fourth decades. In the males, the duration of the eruption varied from two weeks to eight years; the duration in the females varied from two months to twenty years. In the circumscribed variety, the sites of predilection for the patches were as follows: in the order of frequency, the cubital spaces, the nape of the neck, the popliteal spaces, the inner surfaces of the thighs, the upper part of the chest, the anterior and outer aspect of the legs, the extensor surfaces of the forearms below the elbow. Four of the twenty-one women had infiltrated and scaly plaques on the back of the scalp, either contiguous to the lesion on the nape of the neck, or occurring independently on the hairy scalp. None of the men presented circumscribed plaques in the scalp. The axillary spaces were unaffected in the patients with the circumscribed type of disease.

The diffuse variety occurred in three women and one man. The ages of these were 24, 32, 41 and 44 years, respectively. The mixed variety appeared in three women and two men; their respective ages were 12, 23, 37, 48 and 51 years.

## ETIOLOGIC AND PATHOGENIC FACTORS

It was originally my intention to submit an analysis of the etiologic and pathogenic factors that presumably contribute to the incidence of circumscribed and diffuse pruritus with lichenification. After questioning half a dozen of the more intelligent patients, I concluded that my time and efforts were going to waste. Depending on the way I would formulate my questions, I could elicit a variety of replies which in some instances seemed to be quite in line with the views expressed by Brocq; in other instances, the replies were vague and indeterminate; in still others, they were quite contradictory. That Brocq is right in his contention that some of the patients give evidence of a neuropathic habitus, I am thoroughly convinced; but by no means does that apply to all. Moreover, it is still a question whether the disease instigates the neurotic manifestations, or whether an existing neuropathy is the cause

of the cutaneous manifestation. My observations lead me to believe that the incidence of neurotic manifestations is about the same as in patients suffering from eczema and lichen planus. Brocq lays considerable stress on the pathogenic rôles played by excessive indulgence in coffee, tea, alcohol, tobacco, etc. I was not able to confirm his views regarding the existence of a direct, or even indirect relationship between the excessive use of these stimulants and the incidence of the disease; as a matter of fact, most of the clinic patients were far too poor to permit excessive indulgence in these luxuries. Now and then, a woman would readily fall in with the suggestion that she consumed large quantities of tea, and a man, that he smoked too much; but such concessions can be drawn from patients afflicted with almost any skin disease, as readily as from individuals having no skin disease at all. In a general way, it may be said that at least a third of the patients presented rather well-marked evidences of what, in the absence of expert neurologic examination, I must designate as neurasthenia. It is quite likely, however, that a majority of these cases were neurasthenic directly as a result of insomnia induced by pruritus and discomfort.

Three of the children had enuresis: a boy aged 3, another aged 9, and a girl aged 11; this girl also suffered from seasonal attacks of asthma. Asthma was a complication in three patients; two women with the diffuse type of eruption and one woman with the mixed type. Chronic bronchitis was present in one of the male patients with the circumscribed form of the eruption. Unfortunately, the time at my disposal was too short to permit of general physical examinations and laboratory tests; but, broadly speaking, it may be said that by far the greater proportion of the thirty patients enjoyed good health, aside from their cutaneous symptoms.

#### COMPLICATIONS WITH REFERENCE TO THE SKIN AND CONCOMITANT DERMATOSES

*Pruritus.*—The incidence of a pre-eruptive pruritus is forcibly emphasized by Brocq and his pupils. It was definitely determined that in fourteen patients in this group of thirty, the itching unquestionably preceded the lichenification of the skin: four men and ten women. In two women, private patients, who were observed from day to day over a short period of time, the presence of a pre-eruptive pruritus eventuating in lichenification, was readily determined; one had the diffuse, generalized eruption, complicated by asthma (referred to the writer by Dr. DeForrest); the other suffered from the circumscribed variety and likewise had asthma. Questions directed toward the other sixteen patients with reference to the relative sequence of pruritus and eruption, elicited either vague or entirely contradictory replies. By way

of summary, it might be said that probably a half of these patients may be readily induced to state that the itching comes before the changes in the skin.

*Eczema, Eczematization and Dermatitis.*—Following Brocq's line of thought, it would appear that when a patient with neurodermitis has also an eczema or a dermatitis, the eczema or dermatitis are merely secondary manifestations or complications. The eczema may overshadow the neurodermitis; it may involve the areas already affected by the neurodermitis; or it may appear in otherwise unaffected regions of the body. Here lies the crux of the question: *Is the patient suffering from eczema, or seborrheic eczema, with subsequent lichenification, or has he neurodermitis with secondary eczematization?*

Brocq answers this question with an ingenuous description of different "varieties" of the disease, already referred to. He says that the disease does not always develop in a pure form; that it may be complicated by another dermatosis, or may develop on the soil of a pre-existing dermatosis which masks it, or which it may mask after a while; moreover, he believes that the disease may originate gradually on a genuine primary eczema, and that an existing eczema especially favors the development of pruritus with lichenification in neuropathic individuals. Now, I think it is not presumptuous of me to say that this line of reasoning leads nowhere; these statements imply theses that, at least to the Anglo-Saxon mind, are ambiguous and susceptible to different interpretations. If the neurodermitis is "masked" by another disease, it ceases to be a "variety" of neurodermitis, and becomes the other disease; for example, eczema or seborrheic eczema. The clinical diagnosis is determined by the *status quo*, not by any pre-existing eruption. If the neurodermitis develops "on a genuine primary eczema" Brocq's predominating clinical feature of neurodermitis, namely, a pre-eruptive pruritus, ceases to exist; in this case the neurodermitis is obviously preceded by an itching eruption of eczema, instead of by itching, normal skin which has become lichenified from scratching.

#### SUMMARY

It will be conceded by every one who has a large amount of clinical material at his disposal, that cases of pure pruritus with lichenification, corresponding in every way with Brocq's description of the disease, are rather common. They most frequently present lichenified plaques at the nape of the neck and in the bends of the knees and elbows; the lesions do not resemble eczema; these cases ought to be regarded in the light of clinical entities, whether the patient gives a history of pre-eruptive pruritus or not. Then there are groups of borderline cases, much as there are borderline eruptions of psoriasis and seborrheic eczema; in this group may be included cases in which the lichenified



plaques have become eczematized—a very frequent occurrence—and cases in which there appears to be a gradual transition from lichenification to what can only be called eczema; for example, the cubital spaces may exhibit a patch of pure lichenification, merging without a break, with a papular or papulo-vesicular eruption on the arm above, and the forearm, below. Such cases also are very common. Why quibble about the diagnosis? They are merely examples of neurodermitis of the flexures, with eczema of the adjoining skin. A striking example (Fig. 15) belonging in this group was recently observed, at the Vanderbilt Clinic, in a woman who presented a generalized and very severe eruption of pityriasis rubra pilaris. The sharply defined acuminate papules covered the entire surfaces of the inner aspects of the thighs, with the exception of palm-sized patches below the groins and adjoining the labia majora; these triangular areas of skin were occupied by well-marked plaques of typical lichenification, the borders of which merged with the papules of the generalized eruption; the surface of these patches was violaceous in color, smooth and velvety to the touch, presenting the characteristic cross-hatched appearance, but was notably free of any papular elements. It is safe to say that no one would have thought of eczema in connection with these patches in the groins. An unusual and perhaps unique example of the transition of one disease to another is illustrated in the case of a young girl whom we treated for lichenified plaques in the bends of the elbows with a 10 per cent. tar ointment. Before the lesion had subsided, she presented herself at the clinic with a crop of typical ordinary warts planted in the lichenified area (Fig. 14). The rest of her body was free from warts.

Typical lichenification is frequently observed in the later stages of a great many diseases; it is common in prurigo, mycosis fungoides, leukemia and pseudo-leukemia cutis and the related dermatoses of the diffuse and generalized types, occurring more especially in the flexures; it is sometimes seen in dermatitis exfoliativa, pityriasis rubra pilaris, psoriasis, seborrheic eczema and ordinary dermatitis. In one of our patients, a girl of about 12, the nape of the neck presented a typical plaque of lichenification resulting from scratching induced by head lice (Fig. 13). There seems to be little doubt, however, that a susceptibility to lichenification of the skin must exist in certain individuals; I can visualize many patients with chronic itching dermatoses in whom no signs of lichenification ever became manifest, and many others in whom cross-hatching of the diseased surfaces appeared early in the course of the underlying dermatosis. Clinical experience does not lead me to believe that those patients who presented lichenified areas, in the form of complications or concomitant eruptions, were more likely to be subjects of neurasthenia or were more prone to indulge in the excessive use of coffee or other stimulants than those who were not

affected with lichenification. In the patients with uncomplicated neurodermitis, however, it must be admitted that symptoms pointing toward a state of nervous instability are not infrequent. Moreover, I have the impression that analysis of a large number of case histories would reveal a frequent incidence of asthma, hay fever and bronchitis, in association with both the diffused and circumscribed varieties of the disease, pointing to a probable etiologic relationship between the nervous system and the incidence of the dermatosis.

#### CONCLUSIONS

1. Lichenification of the skin occurs in two forms: *primary*, as in so-called lichen simplex chronicus of Vidal, or circumscribed and diffused neurodermitis of Brocq; and *secondary*, accompanying or following various circumscribed and diffused pruritic diseases of the skin.

2. The primary cases correspond to Brocq's pre-eruptive pruritus with lichenification; clinically, they do not resemble eczema and histologically, they differ in certain respects from the microscopic appearances found in the various forms of eczema. The primary cases should therefore be regarded as a disease entity.

3. The secondary forms may be designated as borderline, transitional, complicating and concomitant eruptions. Secondary lichenification is frequently seen in association with many of the itching dermatoses, such as eczema, seborrheic dermatitis, prurigo, dermatitis exfoliativa, mycosis fungoides, pityriasis rubra of Hebra and pityriasis rubra pilaris. The secondary lichenification may supervene on any of these dermatoses, constituting a complicating eruption.

4. The pure cases of pruritus with lichenification are frequently associated with symptoms of so-called neurasthenia in the affected patient. Asthma, hay fever and bronchitis seem to bear some relation to the incidence of the dermatosis. The question of the influence of excessive use of coffee, tea, alcohol, tobacco, etc., is left open.

For his permission to utilize the clinical material on which this study is based, as well as the pathologic material obtained from some of the patients, I am greatly indebted to Prof. John A. Fordyce. The photographic reproductions were placed at my disposal through the kindness of Assistant Prof. George M. MacKee. I also desire to express my appreciation of the valuable aid extended by the technician of the pathologic laboratory, in the dermatologic department of the Vanderbilt Clinic.

24 West Fifty-Ninth Street.

#### DISCUSSION

DR. WHITE asked if in any of these cases Dr. Wisse had noticed any epidermophyton infection in the groin, because in the paper the speaker expected to read on the following day he claimed that at least three patients owed their troubles to this cause. Dr. Wisse did not speak of the suboccipital location, but spoke of the nape of the neck and he wished to ask what Dr. Wisse used

in these cases. The speaker spoke of the very satisfactory results he obtained from the use of crude coal tar.

DR. FORDYCE thought that Dr. Wise deserved a great deal of credit for his careful study of these cases. Personally he preferred the term lichenification, rather than neurodermatitis, which presumed a nervous lesion back of them, and there was no proof of that. Some of them might be of epidermophyton origin. He had seen a number of cases of universal lichenification of the skin, one in a man who had had it since early childhood. It was found that he was sensitized to egg white. The least bit of this would precipitate a dermatitis. In some cases a foreign protein sensitization was doubtless the cause of the trouble. He had treated many cases of lichenification, especially on the back of the neck with a 25 per cent. solution of sodium hydroxid to soften the thickened epidermis. This should be followed by curettage and a soothing ointment. In other cases he had used a coal tar preparation known as carbonoeol, first suggested by Herxheimer.

DR. GOLDENBERG said that it was now twenty-five years since this subject was discussed at the International Congress at Rome. At that time, Professor Neisser, who opened the discussion, wished to have these cases excluded from the lichen group, just as Dr. Wise had said. The French school and the Vienna school described them as neurodermitis and the Berlin school described them as eczema pruriginosum, meaning to express the resemblance of these cases to prurigo. It was curious that within the last few years Hoffmann had again classified these cases under the term prurigo inversa. He wished to say with respect to "inversa" that it did not affect the extensor parts which were generally affected by that disorder, but the flexor surfaces. The description by Brocq and the classification, seemed to be entirely too dogmatic. He did not think that Brocq or anyone else was justified in calling the disease a pruritus with lichenification. It was true that pruritus was one of the symptoms but he did not think the disease should be thus labeled. As to the nature of the disease, he thought that metabolic disturbances played an important part.

As far as treatment was concerned, he employed the coal tar oil, introduced by Herxheimer under the name of carbonoeol, but much stronger. He employed it pure or in strong solution in alcohol, or better as a 33 per cent. coal tar with equal parts of collodion and acetone. The results for a time were very good but they recurred no matter what was done. This was also true with the roentgen ray.

DR. LANE said that Dr. Wise had very fully brought out the existing state of the confusion in the classification of the pseudo-lichens. It would be much better, as Dr. Wise suggested, to abandon the name of lichen in such conditions as the lichen simplex, Vidal. Perhaps this had not been done because of the numerous substitutes suggested, several of which, like neurodermite and pruritus with lichenification, were rather awkward. In this condition, and in some of the others referred to, there was little, if any, difference in appearance from the lichenification which followed eczema and other pruritic diseases of long standing. The differentiation could be made only from the history. In the case of neurodermite the lesion was preceded by pruritus only, and this frequently existed for a long time before the lesion appeared. The neck, as had been stated, was a favorite location for these lesions. Dr. White had referred to them as "Nuchal eczema of nervous middle-aged women," which appeared a backward step in nomenclature, for they in no way resembled lesions which were now classed as eczema. With Dr. White he had found crude coal tar the most successful drug in these cases. It usually alleviated the pruritus and sometimes softened the thickened skin, but in his hands rarely accomplished a cure. On the other hand, a few mild doses of roentgen-ray almost invariably stopped the itching entirely and in a short time the lesions disappeared. The only objection that could be urged against it was that it might



possibly add to the subsequent pigmentation. This was not of great importance and it was difficult to estimate as the lesions were frequently attended with or followed by considerable pigmentation even when not treated at all.

DR. HARTZELL thought these cases should be differentiated. In his opinion there was too much inclination to group them under one term. Lichenification with eczema was not very rare, but it was still eczema. In certain cases itching preceded the formation of the lichenoid patches.

DR. LITTLE said that Dr. Wise had been kind enough to send him a copy of his paper and had asked him to discuss it. The speaker was quite convinced that if these cases were accepted we took a different view from that taken in England. In his experience of many years he had seen only forty cases. They regarded it as a clinical rather than a pathological group. The things which would justify them in making the diagnosis were extreme itching and extreme chronicity. Looking at the excellent photographs he was quite sure that if they were shown to his section at least one-half would be ascribed to different diseases, and not accepted as the neurodermatoses of Brocq. In the beautiful picture of the groin it seemed to him that it could easily be pityriasis rubra pilaris, as he had seen those lesions. He thought perhaps the English school was apt to diagnose lichen planus too frequently. In his opinion Dr. Wallhauser's case with the line down the limbs and across the back looked like a lichen planus, but he thought they diagnosed lichen planus more frequently than they should. Many cases of neurodermatoses were quite indistinguishable from lichen planus; for many years they had that appearance and later developed the typical eruption of lichen planus.

He thought the group was useful clinically but did not think the distinction could be readily made at the present time. He thought it would be well to keep the separation and obtain a biopsy in as many cases as possible. Their cases did not submit at all readily to biopsy. If one was to depend on the pathological diagnosis they would not, in England, make the diagnosis once in a hundred cases.

DR. PUSEY felt that the Association was indebted to Dr. Wise for bringing up this subject of lichenification of the skin for discussion, although he could not agree with many of the views that Dr. Wise advanced. His views were very much those of Dr. Little. It seemed to him that the attitude of the English on this subject was the reasonable one. He believed that there were perhaps several clinical entities in this group, but he did not believe that lichenification in itself was characteristic of any definite disease. It represented changes in the skin due to subacute or chronic inflammatory processes which could be produced by several processes. He was particularly opposed to the name "neurodermatoses" for these cases. Many of the cases represented types of sensitization which was not a neurotic matter at all. He liked the term lichenification to describe a certain clinical condition in the skin, but he did not believe it could be erected into a distinct clinical entity. He particularly objected to the name "neurodermite," which only confused the situation by introducing a name whose meaning was unfamiliar and which therefore could be juggled with readily.

DR. WISE said it was gratifying to hear that none of the members objected to classifying the primary cases as a disease entity, which he believed it was, and thereby became separated from eczema. There was probably a true variety which could be separated from the eczema group and another variety which could not.

Replying to Dr. White's question as to whether they found the epidermophyton, he had had an opportunity to examine only two and in neither one were they able to find it. In the case with the lesion on the back of the scalp, which was a relatively common location in women, they did not find any patches elsewhere on the scalp. Treatment in his hands had been unsatisfactory except with the roentgen ray, with which he had obtained very good results.



Dr. Goldenberg spoke of prurigo as being the name recommended by foreign observers for these cases, but the speaker had never been able to understand how prurigo could be associated with any of the cases he had shown. Prurigo was a distinctly papular disease and he did not see where prurigo came in at all in connection with neurodermitis; there was no stage which presented the true prurigo papules. Of all the names he knew he considered that the least satisfactory. The patient with the warts in the cubital region was an example of ordinary warts appearing in the area formerly occupied by neurodermitis.

He was surprised at Dr. Little's assertion that the disease was uncommon in England. The thirty patients he mentioned in the paper were picked at random out of probably a hundred recent cases from the Vanderbilt Clinic, and they were very common in New York.

He expressed the opinion that the true primary examples of neurodermitis with lichenification had their origin and pathogenesis in the scratching and trauma induced by pruritus, preceding the changes observable on the skin.

# Society Transactions

## NEW YORK ACADEMY OF MEDICINE

### Section on Dermatology and Syphilis

*Regular Meeting, May 5, 1919*

JOHN E. LANE, M.D., *Chairman*

ACRODERMATITIS CHRONICA ATROPHICANS. Presented by DR. WISE.

The patient, a woman, aged 54, from Dr. Fordyce's service at the Vanderbilt Clinic, stated that the disease began with edema of the legs fourteen years ago, followed by a stiffening of the skin about the ankles. She presented the usual features of the disease, namely, a sclerodermatous change of the dorsum of the feet and about the ankles, atrophy of the skin of the legs, the veins shining through the skin, and anetoderma over the knees.

MORPHEA (?). Presented by DR. WISE.

The patient, a woman from Dr. Fordyce's clinic, aged 36, had a lesion that began five years ago and increased in size until two years ago, since which time it had been stationary. At the beginning it was the size of a split pea. Four roentgen-ray treatments had been given without improvement.

The lesion occupied the anterior portion of the left forearm; it was oval, 1½ by 1 inch in diameter, and had an elevated, firm, waxy, yellowish-white border that felt keloidal. The center presented atrophy and telangiectasis. Six weeks ago there appeared two additional lesions about one-fourth or one-half inch from the larger one. The new lesions were the size of a split pea, were infiltrated, erythematous and apparently cutaneous-subcutaneous. The patient presented no other lesions. She suffered from diabetes.

A Wassermann test had been made and also a biopsy, but no report had yet been received on either.

The lesion on the left forearm was two inches in diameter and sharp-edged. The patient had previously been treated at the Skin and Cancer Hospital and stated that she had had the lesion for two years. It was difficult to say whether or not it was morphea. Dr. Aitken said that when he first saw the case two years ago it looked like epithelioma. If so, it was the type described by Stowers.

#### DISCUSSION

DR. PAROUNAGIAN favored the diagnosis of morphea and said he would be very glad to hear the final findings.

ULCERA PALATI; TUBERCULOUS (?). Presented by DR. WISE.

The patient, George M., from Dr. Fordyce's clinic, aged 34, born in this country, married, had had the condition for three years. The anterior surface of the hard palate presented six ulcers, varying in size from a pinhead to half an inch in diameter. They were punched-out in appearance and had a granular surface. There was no syphilitic history and several Wassermann tests were negative.

Scrapings had been made for the purpose of inoculation tests, and the findings would be reported later.

## SCROFULODERMA, DACTYLITIS TUBEROSA. Presented by DR. MACKEE.

The patient, Florence B., aged 2, born in this country, had had the disease for thirteen months. The right foot from the ankles to the toes presented a red and indurated swelling. The little finger of the right hand was swollen to three times its normal size and was spindle-shaped, with ulcerations on each side. The pads of the left hand presented a circumscribed swelling and induration and erythema about one inch in diameter. The left leg below the knee presented a violaceous scar with a sinus. A dime-sized crusted area was present on the outer side of the left malleolus. The right calf showed deep-seated boggy induration, analogous to Bazin's disease. The inguinal glands were enlarged. The mother's Wassermann reaction was negative.

## DISCUSSION

DR. WISE asked for an expression of opinion as to the best method of treating the case. The dactylitis was very severe, but otherwise the child appeared to be in good health. It had been sent to the Babies' Hospital, but it would have been necessary to leave the child there for a year, and the mother refused to do that. It might be well to send it to the Seaside Home for a while. Any suggestions for the proper handling of the case would be appreciated.

DR. ROSTENBERG suggested trying the effect of Alpine sunlight treatment.

DR. WISE, in reply to an inquiry from Dr. Lane, said that all four extremities were affected and that there were several bone lesions. Referring to Dr. Rostenberg's remarks about the Rollier treatment, the speaker said that the Rollier treatment and the Alpine lamp treatment had been applied to such cases, but he would like to see them both before and after treatment. In this instance, he agreed with Dr. Trimble that the first thing to do was to get rid of as much as possible of the focus of the disease and then to try the other forms of therapy combined with good hygiene. One of the members had suggested tuberculin, but there was no special reason to believe that that would do any good in a case of this kind.

## LICHEN PLANUS ANNULARIS. Presented by DR. CHARGIN.

The patient, T. L., an Italian, aged 28, married, had had skin trouble about one year. The eruption consisted of two circular lesions on the corona and shaft of the penis and about five similar lesions on the left leg. All presented the same appearance—the border consisting of lichen planus papules, the central portions being pigmented and slightly scaly. There were also several hypertrophic patches on the right thigh. No mucous membrane lesions were noted. The patient complained of considerable itching. The Wassermann reaction was negative.

## DERMATITIS MEDICAMENTOSA (ARSPHENAMIN) WITH PIGMENTATION. Presented by DRs. GOLDENBERG and CHARGIN.

The patient, a man, aged 32, whose syphilitic infection dated back twelve years, had taken inadequate and irregular treatment during the first four years of his infection, and thereafter none until he came under observation at Mount Sinai Hospital about a year ago. At that time he showed symptoms of tabes and since had received twenty injections of arsphenamin at intervals of from two to three weeks. No untoward effect followed the first sixteen injections. From six to eight hours after the seventeenth injection, an erythematous eruption appeared which was accompanied by itching. The lesions were numerous, scattered all over the body, and varied in size from a pea to a twenty-five cent piece. In a period of from two to three days the erythema gradually involuted, leaving dark pigmented areas almost the size of the original erup-

tion. Three subsequent injections were followed in each instance by similar acute eruptions—new lesions appearing and some of the old ones relighting, the erythema and subsequent pigmentation increasing in size and intensity. Adrenalin had no effect in preventing the attacks. There was no general arsenical pigmentation of the skin.

DR. CHARGIN said that, aside from the eruption, the patient had experienced no general or nitritoid reactions as a result of the arsphenamin treatments. In the first attack the eruption appeared from six to eight hours after the injection, whereas in the later ones this period seemed to be shortened to from three to four hours. The eruption was especially noticeable on the buttocks and in the intergluteal folds, in this location as well as on some other areas becoming confluent.

#### DISCUSSION

DR. ABRAMOWITZ said that the case was interesting on account of the pigmentation. He thought, however, that the term dermatitis medicamentosa did not really describe the character of the eruption for the lesions were of the erythema multiforme group and followed by pigmentation. This was proved by the speaker in an article that appeared in *THE JOURNAL OF CUTANEOUS DISEASES*, January, 1918. There were various skin manifestations that followed the administration of arsphenamin—urticaria, erythema, dermatitis exfoliativa, jaundice, etc.—why not call this eruption an erythema multiforme followed by pigmentation?

DR. CHARGIN replied that the condition had apparently been previously described by Grön under the name of melanodermie. The author spoke of an eruption with pigmentation following arsphenamin. In the speaker's opinion, the term dermatitis medicamentosa described the condition better than erythema multiforme, since the former gave a clue to the etiologic factor. Dr. Abramowitz' suggestion in regard to the use of atropin, as possibly preventing future attacks, as originally recommended by Stokes for preventing the nitritoid reaction, would be given a trial. If, despite all efforts the patient should continue to develop the eruptions, the arsphenamin injections would, of course, be discontinued.

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### CHICAGO DERMATOLOGICAL SOCIETY

*Regular Meeting, Feb. 19, 1919*

DAVID LIEBERTHAL, M.D., *President*

CASE FOR DIAGNOSIS. Presented by DR. STILLIANS.

The patient was an American man, aged 36, a clerk by occupation, who had had a lesion on the nose for six or seven years. It began as an ulcer which was curetted several times and skin grafted, but never entirely healed. There were no subjective symptoms.

On the left ala nasi was an area of normal skin color, about 1.5 cm. in diameter, with two shallow ulcers, 0.3 cm. in diameter, covered by thin blood crusts, at its upper borders. At the center was a thin scar, and about it a few rather hard superficial papules covered by skin of normal color.

#### DISCUSSION

DR. IRVINE thought that any diagnosis was rather guess work on account of the skin graft. It might be a carcinoma, but he did not care to offer a definite diagnosis.

DR. ORMSBY thought it might have been an epithelioma.

DR. STILLIANS believed it was an epithelioma.



MYCOSIS FUNGOIDES OR LEUKEMIA CUTIS (?). Presented by  
DR. ORMSBY.

The patient, a man, aged 24, whose disorder had been present for two years, had lesions extending over a wide area; there was almost complete alopecia of the scalp. Practically the whole cutaneous surface was erythematous, with moderate scaling. Open and crust covered ulcers were irregularly disseminated over the arms, forearms, trunk, buttocks, thighs and legs. Some crusted nodules were noted here and there. Many large, superficial, irregular scars were present which closely resembled syphilitic scars.

The patient stated that the erythema and scaling began when he was 6 years of age, while the alopecia and ulcerating lesions began only two years ago. The first lesion noted by the patient was a crusted area that soon became an ulcer which enlarged by peripheral extension. While under observation, new lesions developed and these were superficial, flat nodules which soon became encrusted and later ulcerated. The ulcers varied from pea to palm size; some were deep and irregular. Some lesions healed without scars. Much discharge occurred in the deep lesions, many remaining open in spite of varied treatment. Early in the disease arsphenamin was administered, fifteen injections being given with some benefit. The hair regrew but soon fell out again. While under the observation of the speaker, arsphenamin had no effect on the lesions. The Wassermann reaction was negative. The blood findings were: leukocytes, 6,900; red cells, 3,780,000; hemoglobin, 84 per cent. Differential white cell count: small lymphocytes, 25 per cent.; large lymphocytes, 6 per cent.; large mononuclears, 10 per cent.; transitionals, 18 per cent.; polymorphonuclear neutrophils, 35 per cent.; eosinophils, 5 per cent.; myelocytes, 1.

Histologic examination showed a small round-cell infiltration of uniform character. It was not the one usually seen in mycosis fungoides, nor was it typical of leukemia cutis. The case was unusual and required further study.

## DISCUSSION

DR. ORMSBY said that he saw the man for the first time three weeks before presentation. Shortly afterward the Wassermann reaction was found to be positive. He was then given three injections of arsphenamin within four days, without effect on the ulcers. He had previously been treated with roentgen rays without any effect, according to the patient's story. The ulcers that were present were in the same condition as those he had when first seen, or perhaps a little worse. An antiseptic dressing had been used.

DR. HARRIS believed that, owing to the alopecia, it might be mycosis fungoides.

DR. WILE did not believe the positive Wassermann reaction in any way influenced the clinical diagnosis; he did not believe it was a syphilid. He agreed with Dr. Harris that the only thing it resembled was mycosis fungoides.

Another possibility which suggested itself was that the case might fall into one of the leukemia groups. The very few cases he had seen and had heard discussed, though, did not tend to ulcerate as this case did, so that brought him back to the original idea that the case was an unusual one of granuloma fungoides.

DR. ZEISLER thought it was mycosis fungoides.

DR. IRVINE thought at first glance that mycosis fungoides was the most likely thing to consider, but the microscopic examination did not seem to bear this out entirely. The blood findings would necessarily influence the diagnosis. On the other hand, the skin had not the dryness and roughness which he had seen in leukemias. He did not believe that syphilis had anything to do with it.

DR. ORMSBY said his idea of the histology was that it was not mycosis fungoides. He had not seen a case of that disease which presented this

picture. The clinical picture was like a case which Kaposi described as mycosis fungoides but that patient later developed leukemia and died. He believed it might be either one or the other of those diseases.

#### CASE FOR DIAGNOSIS. Presented by DR. E. P. ZEISLER.

The patient, a woman, aged 22, presented a disorder of five years' duration. It began on the neck, disappeared and recurred, but had been constantly present for three years. At the time of presentation the eruption was most marked in the cervical region, the axilla, sternal region and on the palms. There were also a few scattered lesions on the forehead and on the trunk. The essential lesion was a distinctly keratotic papule with a secondary dermatitis as a result of scratching. The case was presented as an early example of Darier's disease.

#### DISCUSSION

DR. ORMSBY said he saw the patient October 1, and the history written by Dr. Mitchell stated that the girl was 20 and had had the trouble for four weeks. The eruption began after bathing at a public bath. There was moderate itching and a history of a former eruption in the genital region at the menstrual period. There were two palm-sized areas on each side of the neck, which were scaling. No other lesions were present.

DR. HARRIS thought it was lichen planus.

DR. WILE did not agree with Dr. Harris that it was lichen planus. The lesions under the arm had a peculiar brown color which he had never seen associated with that disease, but which he had seen associated with psoriasis. He thought the lesion that resembled lichen on the neck was due to the pruritus and rubbing. The primary lesion was not an inflammatory papule, but a noninflammatory lesion, follicular in arrangement.

DR. ORMSBY said he had no recollection of having seen the patient before, but would hesitate in making a diagnosis of Darier's disease. The crusts and definite lesions which occurred in that disease were very characteristic, while in this case everything that was present could be accounted for by the therapy. The keratotic lesions on the palms might be accounted for by arsenic which she had probably had for several months when she was under the care of a general practitioner. The lesions on the neck certainly had the appearance of lichen planus, but he was not willing to say that it was that disease.

DR. ZEISLER thought that the present condition of the patient did not correspond with the description in Dr. Ormsby's records. She had never taken arsenic to her knowledge and this could not therefore, account for the palmar lesions. The lesions in the axilla and on the chest were of a light-brown color and unlike that of lichen planus. The keratotic element was less pronounced at present because the patient had been using a strong keratolytic salve for several weeks. An attempt would be made to secure material for biopsy.

#### URTICARIA PIGMENTOSA. Presented by DR. HARRIS.

The patient was a child aged 2. Shortly after birth the mother noticed spots all over the body except on the face. They were pea to coin size and generally oval, of a brown color and accompanied by considerable itching. On irritating the spots they became distinctly elevated.

#### DISCUSSION

DR. STILLIANS thought it was an urticaria pigmentosa.

DR. ZEISLER said he had seen the baby before and had also seen the microscopic section, which showed it to be urticaria pigmentosa.

## HEMANGIOMA. Presented by DR. HARRIS.

The patient, a child aged 17 months, presented an extensive vascular nevus of the arm with a deep extension on the side of the chest. The center of the arm lesion had ulcerated and healed, leaving a pale scar.

The case was presented for suggestions as to treatment.

## DISCUSSION

DR. ZEISLER suggested the use of boiling water in the treatment.

DR. PUSEY, in reply to questions, said he did not think well of the results in angioma that he had seen from treatment with boiling water. As to the danger of thrombosis in angioma treated with carbon dioxid, he had been very anxious about that when he first began to treat these lesions with that remedy, particularly when they were about the head. He had discussed the possibility of this danger with many persons; the only satisfactory intimation he had gotten from anyone had been from Dr. John B. Murphy, who suggested that he had never heard of a thrombosis in any case of accidental freezing, even so extensive as freezing of a whole member. Since the speaker's early experience with carbon dioxid, he had come to feel that the danger of thrombosis from freezing in angioma was extremely remote, if not entirely negligible. He thought the interesting questions were the danger of sloughing and hemorrhage in extensive angioma. He had seen very extensive sloughing after freezing with carbon dioxid in some large angiomas with unstable blood supply, but he had never seen any hemorrhage of any consequence, and he felt that that, too, was a very remote danger.

DR. ORMSBY said that in this particular case there was a tumor almost as big as a fist, so there was only a question of surgical interference, roentgen or radium therapy. He thought they would be justified in treating it with a Coolidge tube, with a filter, and that on account of the age of the child, this would probably be the safest procedure. He thought freezing would be out of the question because of the size of the growth. Radium treatment would probably be out of the question for the same reason; it would be impossible to cover the whole surface so as to do much good.

## SARCOID. Presented by DR. ORMSBY.

The patient, a woman aged 23, had had the disorder for five years. The lesions were of different types and situated on the face, arms, forearms, wrists and fingers. Those on the face were nodular plaques, brownish-red in color and firm in consistency; on each cheek was a plaque about 2 inches in diameter, a smaller similar plaque extending over the nose. On the arms and forearms were bluish-red discolorations beneath which deep nodules could be palpated. About the wrists and dorsi of the hands were large, subcutaneous, firm nodules, varying in size up to that of a filbert. Each finger had one or more globular, soft swellings, some bluish-red, others not colored. These masses produced deformity suggesting arthritis deformans. Skiagraphic examination revealed cysts in the bones of the distal phalanges. No subjective symptoms were present.

A histologic section from a lesion on the face showed masses of cells surrounded by a definite connective tissue capsule. Some giant cells were noted.

The case will be reported in detail after further study.

## DISCUSSION

DR. WILE thought it was a very extraordinary case. The lesions on the arm were deep-seated nodules that he thought corresponded to the description which Dr. Wende gave of nodular tuberculosis of the hypoderm. The lesions in the small bones of the hand were cystic, and yet there was infiltration of the soft tissues around them. He thought that those lesions alone would



justify one in diagnosing the whole thing as tuberculosis. The lesion on the face was not distinctly tuberculous in type. It looked more like a sarcoid lesion. He believed it was a mixed type of sarcoid in the face and nodular tuberculosis in the legs. The microscopic section showed very discrete nodules of distinctly tuberculous type.

DR. IRVINE thought it was a very unusual case, but could not see that it was anything but a tuberculous process.

DR. ZEISLER believed it was a combination of cutaneous and subcutaneous sarcoid.

DR. HARRIS considered it a sarcoid, and did not see why Dr. Wile differentiated between the lesions on the arm and those on the face.

DR. ORMSBY said that the skiagraphic findings were such that the case had been diagnosed as gout, as such cysts were seen in gout. The patient said it was "rich man's rheumatism." He believed that Dr. Wile had solved the problem. He was satisfied from what he saw and had studied that some cases of sarcoid were tuberculous and some were undoubtedly syphilitic, but he thought best to keep it under the head of tuberculous sarcoid. He did not see why all of the lesions were not the same, some of them cutaneous and some subcutaneous. He was much interested in the bone lesions and asked if tuberculosis had ever produced such bone lesions as these.

DR. HARRIS asked if anyone had ever seen the same microscopic appearance in a syphilid simulating sarcoid.

DR. WILE said that in some types this was seen, but he did not think syphilis had anything to do with this case.

#### CASE FOR DIAGNOSIS. Presented by DR. STILLIANS.

The patient, a schoolgirl, aged 15, had, three months before presentation, a lesion near the right lower lid and spread over both cheeks and neck. There were no subjective symptoms.

On and below the right lid was a large, yellowish-red mass that extended over the whole cheek and on to the neck, with similar masses on the other cheek. Several minute pustules were present in the lesions and there was superficial ulceration of one of the masses near the mouth. The lesion was soft, painless and not tender, sharply defined in some places, but not polycyclic. The excoriated lesion at the left corner of the mouth was round, about an inch in diameter, and sharply defined.

#### DISCUSSION

DR. HARRIS thought it was a sarcoid. There was some superficial pus, but he thought it did not extend very deeply.

DR. LINNEMAN said the lesions were soft and boggy, came on within three months, spread rapidly and there had been distinct abscesses which had been opened. There had been one on the back of the neck, and he believed it was one of the fungoid growths.

DR. WILE was not impressed with the case in the way Dr. Harris was. It appeared to him that the lesions were much too soft and there were scabs that evidently led to sinuses in the depth of the lesions. He thought it resembled more nearly some form of mycosis, such as might come from a sporothrix infection. The masses were large and all over the face; they did have a tendency to form pustules and he felt that the case should be investigated for the demonstration of mycelia.

DR. STILLIANS said that the intern sent it up as a ringworm and that diagnosis was as good as any made so far. He could not think it other than an infection, for there was pus formation in several places, some of them deep



in the skin. The lesion on the back of the neck was very deep and began at the same time as the one beneath the eye, resulting in a contractile scar.

DR. LIEBERTHAL did not think this would exclude tuberculosis.

DR. ORMSBY did not think it was tuberculosis but a pus infection of some kind, and believed the ringworm infection would account for it very satisfactorily.

#### MOELLER'S GLOSSITIS. Presented by DR. HARRIS.

The patient, a man, aged 52, two years ago noticed that eating raw tomatoes caused pain in his tongue. Since then he had had to eliminate salt, pepper, vinegar, all hot drinks and chewing and smoking. Sometimes the condition was much worse than at others and had affected the lips also. He described the sensation as an itching and burning sensation that at times interfered with eating.

The dorsum of the tongue showed irregular red areas, between which the mucosa was of a paler color. There was no ulceration nor were the papillae enlarged.

#### DISCUSSION

DR. ORMSBY believed it was a case of Moeller's glossitis, and thought Dr. Harris did good work for the Society when he wrote his paper on this disorder. The treatment was just as unsatisfactory as ever, but it was well to know in the beginning that very little could be accomplished.

DR. HARRIS said that this was the third case he had seen. The other two patients had died, one of starvation and the other of carcinoma. This man was said to have an ulcer of the stomach with a total acidity of 5 per cent. so possibly he had carcinoma. He could not use tobacco in any form and could not eat anything salty, peppery or hot. The appearance had changed somewhat in the preceding three or four weeks. He showed the case again so the members might see how the appearance changed.

#### LUPUS VULGARIS. Presented by DR. STILLIANS.

The patient, a man aged 45, had suffered from an anal fistula for four years. It had been operated on twice but still discharged purulent material and itched constantly. He had lost much weight and strength. His father died from tuberculosis; there was no other case of tuberculosis in the family. Crepitant râles were found above and below the left clavicle and posteriorly over the left apex. Roentgenogram of the lower spine showed that the third and fourth segments of the coccyx were out of normal line and seemed less dense than normal. No definite indication of an osteomyelitis was present. Temperature, pulse and respiration were normal.

About the anus were several fistulous openings, and extending outward on both buttocks an area of thin scarring, polycyclic in outline, bordered by a ridge about 2 mm. wide and 1 mm. high, hard and warty. Within this border were a number of soft, brownish-red, slightly elevated papules which showed brown under the diascope.

#### DISCUSSION

DR. WILE thought he would hazard the diagnosis of blastomycosis.

DR. IRVINE agreed with Dr. Wile.

DR. HARRIS thought it was a circinate lupus, perhaps from tuberculosis of the coccyx.

DR. ORMSBY did not consider it a blastomycosis but agreed with Dr. Harris that it was a circinate lupus.

DR. LINNEMAN believed it was tuberculosis verrucosa cutis, because of the narrow border and papules in the center, bluish-red, with some normal tissue in the center of the lesion.

DR. STILLIANS considered it a lupus vulgaris, and was impressed by the recurrence of nodules in the scar within the bordering ring which was hypertrophic, like tuberculosis verrucosa cutis. These nodules showed a yellowish translucence. The scar was very thin.

#### CUTANEOUS ATROPHY. Presented by DR. ORMSBY.

The patient, a colored woman, aged 22, had had the disorder for two years. The lesions were pea-sized, atrophic areas situated over the chest, breasts and back. A band of similar lesions extended under the chin and around the neck and back of the ears. In the involved area a network of lesions was present in the normal skin and presented a peculiar picture. In the atrophic areas the skin was wrinkled. No preceding lesion had occurred and there were no subjective symptoms. Pigment changes were noted, but were difficult to describe on account of the natural color of the skin. The Wassermann test was negative.

#### DISCUSSION

DR. HARRIS thought it was hyperkeratosis due to a fungus infection, and believed there was a marked similarity between this case and those shown by Dr. Shaffner which affected the scrotum. He could not explain the reticular arrangement but it might be because the skin was a little more congested. Under the neck it was diffuse.

DR. STILLIANS thought it was an atypical parapsoriasis.

DR. ORMSBY said that he saw a very similar case a few weeks previously and was interested in having two such cases in close succession. The patient had come in only a few days before, and he had not had time for much investigation.

#### MORPHEA. Presented by DR. ORMSBY.

The patient, a woman whose disorder had been present for one year, had a lesion circular in outline situated on the abdomen slightly to the right of the median line and above the umbilicus. It measured 3 by 2½ inches and was typical in every respect. The violaceous border was one-half inch wide and the center was yellowish-white and firm.

The patient was of interest only because she suffered some twelve years previously with a typical attack of lichen planus sclerosis et atrophicus (Hallopeau) and was in the group reported by Drs. Montgomery and Ormsby, *THE JOURNAL OF CUTANEOUS DISEASES*, **30**: 1907.

#### DISCUSSION

DR. HARRIS thought there was no connection between the lichen planus atrophicus et sclerosis of fifteen years ago and the morphea of the present. He did not consider it necessary to think them the same condition because they occurred in the same person. He was willing to accept Dr. Ormsby's differentiation.

DR. SENEAR thought that if the original lesion had been morphea there would not have been the same clearing up that there was at present. Some of the original scars were present and he thought they were two separate conditions.

DR. LIEBERTHAL believed they were two different processes. First of all, the lichen atrophicus was in a typical place and cleared up. He saw no reason why the present lesion could not develop in the same person.

DR. ORMSBY said that it was disconcerting to have this patient come in now with a typical lesion of morphea in view of the fact that she had suffered some years previously with lichen planus atrophicus et sclerosis (Hallopeau). That disorder had entirely cleared up years ago and the new

disorder was apparently disconnected with her former disease. At the time this case was originally recorded confusion existed concerning the so-called white spot disease. Our contention then was that all of these cases fell into one of two categories, either morphea guttata or lichen planus atrophicus et sclerosis. This has been fully confirmed by many observers. It was therefore interesting to see a patient who has during a period of years suffered with both of these disorders through the morphea was not of the guttate type.

#### LESION ON CHEST, FOR DIAGNOSIS. Presented by DR. STILLIANS.

The patient, a negro, aged 20, presented a lesion on his chest that had been present all his life. The lesion was an oval white area about  $1\frac{1}{2}$  by 1 cm. with a small, soft white papule at the center. On rubbing, the lesion became red.

#### DISCUSSION

DR. HARRIS thought of Sutton's description of vitiligo centrifugum, in which he described the little lesions with the spot in the center. He had never seen a similar case and the patient said it was growing.

DR. IRVINE thought it was a white spot with a mole in the center.

DR. SENEAR did not believe this case belonged to the group described by Sutton.

DR. ORMSBY said he had seen several similar cases and considered it an ordinary vitiligo.

DR. STILLIANS said he had seen several similar lesions in white people; that is, a depigmented area about pigmented moles. He did not think it was vitiligo. This happened to be lack of pigmentation of a mole and the surrounding skin. When it was rubbed it became red, so it had no relation to nevus anemicus.

DR. HARRIS said that a short time before, he had seen a case in a negro that looked like a birthmark which was caused by lack of pigment. He thought this might be a nevus in a negro, showing lack of pigment instead of an increase as in a white person.

#### CASE FOR DIAGNOSIS. Presented by DR. HARRIS.

The patient was a negress, aged 32, with many lesions on the back of the hand which had been present for three months. There were a few lesions on the arms, but none elsewhere. She complained of some itching.

The lesions consisted of pea-sized, irregular, very slightly elevated papules, with flat tops, somewhat shiny and with a slight tendency to scale.

#### DISCUSSION

DR. HARRIS said he had shown the patient to see if it might be lichen planus in a negress. The lesions on the arm were distinctly follicular.

#### CIRCINATE SYPHILID. Presented by DR. HARRIS.

The patient was a woman, aged 33, with lesions on the forehead which had been present for six weeks. The lesions were annular and circinate scaling papules, yellowish in color, on the face. There was no itching and no lesions were present in the mouth or on other parts of the body.

#### DISCUSSION

DR. WILE believed it was an annular syphilid, such as was frequently seen in the negro race.

DR. STILLIANS agreed with Dr. Wile.

DR. HARRIS agreed and said that a similar case had been shown some time ago with circinate lesions. It had a small, thin, scaling border which was slightly translucent.

PARAPSORIASIS EN PLAQUES. Presented by DR. WAUGH.

The patient, a man, aged 42, whose general condition was excellent, had a history of a syphilitic infection fifteen years ago. The present trouble began a year and a half ago as roughened, slightly erythematous patches on the dorsal surface of both wrists. Similar areas had appeared on the body and extremities. The lesions consisted of persistent, erythematous areas, some of which showed fine, dry scaling; others were perfectly smooth, varying in size from a half to two or three inches in diameter. The margins were irregular, but usually sharply defined. The lesions on both wrists showed a distinct keratosis of the hair follicles, giving a nutmeg grater sensation to the touch. Very slight itching was present at times and there was but little tendency to spontaneous involution.

DISCUSSION

DR. HARRIS thought it was probably a case of Brocq's disease and that the unusual feature was to see so many lesions on the extremities and so few on the trunk.

DR. ZEISLER suggested the diagnosis of Devergie's disease on account of the follicular character of the eruption on the wrists.

DR. ORMSBY thought there were no lesions that were at all like Devergie's disease. With a case as well developed as this one, there would be other findings.

DR. LIEBERTHAL thought that in this case the follicular keratoses would not mean anything, and did not consider it a case of Devergie's disease.

POSSIBLE SARCOID. Presented by DR. HARRIS.

The patient, a woman, aged 33, had a slightly elevated lesion 3 cm. long by 1 cm. wide on the left side of the nose near the inner canthus. It was a yellowish-red color, had been present for a year and appeared one week after a scratch received from a baby's fingernails. Diascopy showed a brownish infiltration, but no distinct tubercles.

The Wassermann reaction was negative.

DISCUSSION

DR. STILLIANS thought it might be a sarcoid.

DR. LIEBERTHAL called attention to the fact that there was a scar in the center of the lesion and thought it might be purely traumatic.

DR. HARRIS stated that he had performed a biopsy in the case, but had forgotten what the findings were. He had thought it was a sarcoid and put her on Fowler's solution, under which therapy she had shown considerable improvement.

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MANHATTAN DERMATOLOGICAL SOCIETY

*Regular Meeting, May 13, 1919*

PAUL E. BECHET, M.D., *Chairman*

ANGIO-PHLEBITIS OBLITERANS. Presented by DR. WALLHAUSER.

The patient, a man aged 40, had had the condition for a period of about twenty-two years. It had developed shortly after exposure to severe cold,



at which time the feet had become numbed. The feet were swollen and congested and several ulcerations were present, involving the toes and dorsal surfaces of the feet. Ulcerations had occurred on various parts of the feet during the past ten years, generally during the winter months; during the summer months the condition had improved—there was less swelling and congestion and the ulcerations did not occur.

#### ENDARTERITIS OBLITERANS. Presented by DR. OCHS.

The patient was a man and the duration of the condition was one year. He suffered excruciating pains and presented a reddish-bluish, livid condition of the toes. He gave a history of having had his toes frozen last year.

#### DISCUSSION

DR. LEVIN considered the case presented by Dr. Wallhauser to be an example of thrombo-angiitis obliterans (Buerger's disease). The second case he did not consider to be thrombo-angiitis obliterans, but regarded it as an example of cyanosis from poor vascular tone. The pulsation of the dorsalis pedis artery could be distinctly felt, and the appearance of the patient suggested acromegaly. A disturbance of the pituitary gland might have caused this poor vascular tone and resulted in the condition.

DR. WEISS regarded Dr. Wallhauser's case as a type of Buerger's disease. It was one-sided, appeared progressive and had all the earmarks of the condition, namely, claudication, ulceration on the dorsum of the foot, no pulse in the arteria dorsalis pedis, etc. The question of treatment was of main importance—the question of how to relieve the excruciating pains. The patient had stated that at another clinic he had had his limb baked, but that also gave him great pain. The speaker said that in a private case he had recently tried diathermia with benefit, placing one tinfoil plate over the calf of the leg and the other over the dorsum of the foot, starting with 400 milliamperes and going up to 800 or 1,000—administering a penetrating heat. While the patient was not cured by this treatment, he felt much better and the condition was greatly ameliorated. At the same time, suprarenal-gland extract was given, 2 grains three times a day, with the idea that being a pressure drug it might conduce toward mobilizing the thrombus, if this existed. There was a great possibility that the affection might be caused by a disturbance of the suprarenals and that the disturbance in the blood vessels was only a secondary condition. The administration of sajodin sometimes proved beneficial. Surgical interference seemed to be the ultimate refuge.

#### TUBERCULID. Presented by DR. ROSEN.

The patient, Mrs. M. D., a negro woman, aged 30, was born in the British West Indies. She had no living children. She had had one miscarriage about two years ago. She stated that when a little girl she had had an eruption on both legs, which evidently were ulcerated, for superficial scars could still be seen. As far as she could remember, these lesions would heal and new ones form. This occurred when she was between 8 and 10 years of age. About a year ago the patient noticed a lesion on the eyebrow, which disappeared spontaneously, after which new lesions appeared on both upper and lower lids, particularly in the inner canthus region. Then discrete lesions appeared on the chest and back and on the forearm. The lesions presented different characteristics, some being flat, shiny, and angular, particularly those on the extremities; others were small tumors varying in size from a pinhead to a split pea, firm and hard. Occasionally they itched. At the time of presentation they seemed to be stationary. A biopsy had been made and the condition was reported to be tuberculid.

## DISCUSSION

DR. WISE said that he had seen a similar case at the Vanderbilt Clinic and had presented the patient, a negress, on several occasions. The lesions were situated on the nostrils, on the back of the neck and between the shoulders. They felt like little keloids. Several biopsies were made, one from the nose and one from the back. The histopathology was that of a tuberculous process.

ACRODERMATITIS CHRONICA ATROPHICANS. Presented by DR. WISE.

The patient, a woman, aged 57, had had the condition for fourteen years. She gave a history of edema of the leg and gradual hardening of the skin around the ankle. The eruption extended from the toes to the middle of the thigh and presented the characteristic acrodermatitis of the foot. In this instance the affection was unilateral, although it was usually a bilateral condition. The patient had not before been presented at any meeting.

## DISCUSSION

DR. LEVIN considered the sclerodermatous condition a result of chronic edema of the lower extremities. There were varicose veins and the patient stated that the swelling of the legs would diminish at night after lying down.

DR. BECHET said that in his opinion the case presented a typical picture of acrodermatitis atrophicans. The atrophic thinning of the skin about the knees, the tightly-drawn scleroderma-like thickening at the ankles and the interspersed brownish discoloration were all present.

RECURRENT ERYSIPELAS. Presented by DR. WEISS.

The patient was an elderly woman who for nine years had suffered from a recurrent erysipelas of the upper lip and adjacent parts. She had no nasal catarrh or pyorrhea which might cause the condition. The affection would come and go every three or four months. She stated that when she ate "sour things," as she called them—tomatoes, apples, oranges—the condition was likely to appear. The disappearance was not connected with scaling.

The speaker said he had no theory to account for the condition. There were known types of erysipelas, due, not to streptococcus, but to some other organism that might cause such an erysipeloid condition.

## DISCUSSION

DR. BECHET asked how long the attacks lasted.

DR. WEISS replied that they would continue for three or four weeks and then the skin would become absolutely normal. As the case was presented, it had the appearance of a lymphostasis, a mild expression of elephantiasis. In the absence of any other focus, it must be assumed that it was not erysipelas but some other condition—toxic or microbial—that had not been defined. However, he would have the teeth examined by the roentgen ray to learn if extraction were advisable.

CASE FOR DIAGNOSIS. Presented by DR. ROSEN.

The patient, a woman, aged 39, born in Germany, had one child, 17 years of age, and had had two miscarriages. She presented small tumors on the nose and cheeks. The lesions varied in size from the head of a pin to that of a lentil, and were hard with small blood vessels ramifying over the surface. They were of the same color as the skin. Nothing could be expressed by

pressure. There were no subjective symptoms. The condition had existed for about three years.

## DISCUSSION

DRS. GOTTHEIL and WISE thought that it was adenoma sebaceum.

DR. ROSEN said he could not agree with the diagnosis of adenoma sebaceum; that usually occurred very much earlier and this condition had existed for only three years. The lesions were hard and fibrous in character. A biopsy would be made and the report submitted later.

## SCARRING AFTER HERPES ZOSTER. Presented by DR. WISE.

The speaker said that he had brought the patient for consultation in regard to treatment. On the right side of the thorax the woman presented considerable scarring from an attack of herpes zoster, occurring last January. Since that time she had suffered a great deal of pain and had considerable scarring. She had been treated at the Vanderbilt Clinic, but thus far without much success. She also presented considerable atrophy of the deltoid muscles and there was a sort of lysis of the skin, though this may have had no connection with the other trouble.

## DISCUSSION

DR. GILMOUR said that a thorough physical examination should be made to discover the cause of the trouble.

DR. LEVIN suggested a possible lesion of the spinal cord, possibly a new growth. The patient presented a bulging of the right side of the chest anteriorly and posteriorly, and pain and tenderness of the dorsal region of the spine. There was a history of neuritis, and the atrophy of the muscles of the arm may have been occasioned by disuse resulting from the neuritis. A roentgenogram should be made of the spine.

DR. WISE said that he had seen the case at the clinic for only a few minutes in the afternoon. The patient had been referred with no history of any particular lesion being present in the viscera, and it was to be assumed that if there were any lesions present they were not definite enough to be reported. Of course the case would have to be thoroughly studied before instituting any treatment.

## CASE FOR DIAGNOSIS. Presented by DR. ROSEN.

The patient was a woman, aged 42. She stated that for the past ten years she had been using a hair dye that had not caused any dermatitis on the face, neck or any part of the body. Last year she changed the dye, and since that time she had been having a dermatitis on the face, neck, chest and around the ears. The unusual feature of the case was the pigmentation around the neck and ears, as though she had been sunburned while bathing. If one regarded the case clinically without the history, several ideas were suggested, but with the history it was apparently a dermatitis due to the use of hair dye.

## ACNE KELOID. Presented by DR. GILMOUR.

The patient, a married man, aged 29, born in Italy, seven years ago had a papule with pus in it on the back of the neck, and since that time there had been more or less of these papules on the neck—not containing pus, but a serosanguineous exudation. The patient stated that they had felt soft but that did not seem to be accurate, for some of them were hard when seen. They had had no pus in them recently, but had been more numerous in the last two years, remaining, however, about the same size—none larger than a

medium sized pea. About four months ago the patient received some iodid treatment, and since that time there had been a little crust on the lesions.

#### HODGKIN'S DISEASE OF THE SKIN. Presented by DR. LEVIN.

The patient, S. S., a man, aged 24, unmarried, a Russian by birth and a waiter by occupation, came under observation fifteen months ago complaining of weakness, night sweats and generalized itching. For two years he had observed the appearance of swellings, first in the right axillary region, then successively in the right cervical, left cervical and inguinal regions. Examination revealed a marked enlargement of all the lymph nodes, a generalized, diffuse, brownish pigmentation of the skin, numerous excoriations, old pitted scars and papular, prurigo-like lesions scattered over the general cutaneous surface. The spleen and liver were palpable. The glans penis was scarred and contracted, a result of an operation, and the left testicle was not present in the scrotum. The blood pressure was: systolic, 112; diastolic, 60. The blood cell count showed a leukocytosis of 22,000; polynuclear neutrophils, 82 per cent.; mononuclear cells, 18 per cent. The red blood cell count showed 4,400,000. The hemoglobin content determined by the Sahli method was 85 per cent. The pathology of a cervical gland was characteristic of Hodgkin's disease. A week ago the patient returned complaining of great weakness. His condition showed an increase of the abnormal conditions found a year ago. The right upper extremity showed marked enlargement from edema, and the roentgenogram of the chest showed the mediastinum filled with a dense mass of lymph nodes.

#### SINGLE LESION OF PSORIASIS. Presented by DR. WEISS.

The patient presented a single lesion of psoriasis on the top of the head of nine years' duration. There was no other indication of the condition anywhere else.

#### DISCUSSION

Several members suggested a diagnosis of lupus erythematosus.

DR. WALLHAUSER said he was inclined to regard the condition as a persistent variety of dermatitis seborrheicum which would probably respond to a mild administration of chrysarobin treatment. In his experience, similar cases had been successfully treated with Schamberg's neorobin.

DR. WISE said that he had made the diagnosis of lupus erythematosus because on removing the crust he saw small adherent plugs on the under surface; also, on removing the crust forcibly there was no evidence of bleeding. Moreover, the lesions on the left ear were very characteristic of lupus erythematosus. These points, with the absence of all other lesions on the body, were sufficient to make a diagnosis of lupus erythematosus.

DR. WEISS thought that a lupus erythematosus of nine years' standing would have caused some scarring, which was not the case in this instance.

#### NEVUS UNIUS LATERALIS. Presented by DR. WISE.

The patient, aged 23, from Dr. Fordyce's clinic, presented a number of follicular keratotic lesions. One, on the left forefinger, had been there since childhood; those on the left forearm, left shoulder, and left side of the back had been there about eight years according to the patient's statement. The lesions represented a linear nevus of the keratotic and follicular variety.

#### CHANCRE ON LIP. Presented by DR. ROSEN.

This case had recently been presented at the Academy meeting. When the patient was first seen at the Vanderbilt Clinic he had a large fungating lesion on the lower lip, very difficult to diagnose as a primary lesion. He



was examined for spirochetes, but none was found. He had a generalized papular eruption, and had been put on antisyphilitic treatment.

NEVUS VASCULOSUS DISSEMINATUS. Presented by Dr. BECHET.

The patient, a man, aged 35, first noticed the lesions ten years previously. They had rapidly increased in the past three years. Scattered irregularly over the trunk, were from twenty-five to thirty small mulberry-red nevi of varying size, but none larger than the head of a fair-sized pin. In looking up the literature on the subject, the speaker noted that several authors mentioned the possibility of ultimate sarcomatous changes in this type of lesion. The case was presented in order to draw out some discussion as to the truth of this theory.

PITYRIASIS RUBRA PILARIS. Presented by Dr. LEVIN.

The patient, B. B., a man, aged 61, married, a shirt-maker by occupation, stated that the condition of his skin began five months ago with itching of the abdomen and the back. Four days after the onset, a scaliness of the trunk was noticed, and after ten days this had become generalized and profuse. On examination, the whole cutaneous surface revealed the presence of discrete, follicular papules on erythematous bases, covered with fine branny scales and pierced by short hairs. In places, especially over the sacral region, the papules had run together to form large erythematous patches. On the extremities were places where the papules had become confluent to form dime-sized patches which were slightly elevated and covered with a grayish scale. The scalp showed a marked hyperkeratosis and was covered with a thick layer of fine scales that fell in showers over the patient. The palms and soles were the sites of a marked tylosis. On the dorsum of the fingers, especially on the skin of the proximal phalanges, there were numerous black acuminate papules. The mucous membrane of the right cheek showed the presence of a small grayish patch. The treatment had consisted of the internal administration of thyroid. The blood chemistry proved to be normal.

DISCUSSION

Dr. OCHS said that he had treated the patient last November and December, and the man had evidently given Dr. Levin a different history. He stated then that he had had two or three previous attacks of the condition, and when seen he presented a complete picture of dermatitis exfoliativa affecting the whole body from the top of the head to the soles of the feet. At that time it was regarded as a possible neglected seborrhea or psoriasis with dermatitis exfoliativa following. The man did not remain long enough to be properly diagnosed. The speaker said he accepted the diagnosis as given.

Dr. WISE said that the patient presented the characteristic papules of pityriasis rubra pilaris. The peculiar pink color of the lesions on the back and the scaling were characteristic, and he could see no reason for not accepting the diagnosis.

Dr. LEVIN said the patient stated that this was the first attack. He considered this to be a typical case of pityriasis rubra pilaris, and not an exfoliating dermatitis subsequent to a psoriasis. It was true that pityriasis rubra pilaris was an exfoliating dermatitis, but this case could not be called a primary dermatitis exfoliativa or a secondary condition resulting from another disease. The patient showed a hyperkeratosis of the whole cutaneous surface. There were the typical papules, the nutmeg-grater appearance and feel of the skin, the erythematous patches formed by confluence of the papules, the marked branny scaling, the black papules on the dorsum of the fingers and the tylosis palmaris and plantaris of pityriasis do occur in this disease, but they are not so sharply defined and do not show the silvery scales nor the

bleeding points of psoriasis. Hutchinson described this disease under the term lichen psoriasis.

The patient was also presented to show the good effect of thyroid treatment. This treatment was given because of the extensive hyperkeratosis. The hyperkeratosis may have been caused by hyperpituitarism, which may be occasioned by attempts of the pituitary gland to compensate for a hypothyroidism. The thyroid extract was therefore given in an attempt to decrease the excessive functioning of the pituitary.

## NOTICE—REMOVAL OF EDITORIAL OFFICE

The Editorial Office of THE JOURNAL has been removed to 170 West Fifty-Ninth Street, New York City.

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## Original Communications

### LICHEN PLANUS\*

E. GRAHAM LITTLE, M.D., F.R.C.P., LOND.

Physician in Charge of the Skin Department and Lecturer in Dermatology,  
St. Mary's Hospital Medical School, University of London; Senior  
Physician, East London Hospital for Children, Shad-  
well, London; Member of the Senate,  
University of London.

LONDON, ENGLAND

*Mr. President and Gentlemen:*

Allow me first to thank you for the unprecedented honor which you have paid me in asking me to open the debates of this historic society. I do not think that a stranger has ever been so invited by you before, and I can only ascribe the courtesy to your desire to emphasize in these days of closer association between our two countries the feeling of brotherhood in science as well as in war. I confess that I had much searching of heart when I began to shape my opening paper, for it seemed to me that all that was new and true about lichen planus could be written on the back of my visiting card, and I may remind you that our visiting cards are considerably smaller than yours. I soon came to the conclusion that my best course would be to draw as largely as was possible on my own individual experience of the disease; to tell you what I, myself, have seen and noted, and I can at least count myself fortunate that I have been trained in no inconsiderable school. It is exactly twenty years since I exhibited my first case of skin disease at the old Dermatological Society of London, that admirable nursery of dermatologists which must be held in affectionate memory by all its members. Moreover, for nearly the same period I have been in charge of a skin department at one of our great London teaching schools of medicine. The wealth of clinical material in London is so great that if

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\* Symposium and general discussion on lichen planus. Papers by Drs. Little, White, and Fordyce and MacKee. Paper by last authors published in THE JOURNAL, May, 1919, p. 320.

\* Address read before the Forty-Second Annual Meeting of the American Dermatological Association, held at Atlantic City, N. J., June 16-18, 1919.



one is assiduous in attendance, as I have been, at the meetings of our dermatological societies, one cannot fail to assimilate a mass of information not to be gained by any other method. And I will make no apologies for the circumstance that my data are chiefly derived from clinical observation, for clinical observation has been the traditional method and, I hope you will pardon me for saying, has been the glory, of our English school from the time of Sydenham, the father of modern medicine, to the present day. You will not, therefore, construe a possible neglect of Continental and American authorities as due to any narrow British egoism, but to these two facts: that I am anxious to make my contribution as personal as possible; and that I have been so greatly preoccupied during our five years of war, when those of us who had to stay at home have had to duplicate our engagements, that it has been impossible to make any extensive study of the recent literature of the disease. I may say that I have throughout that period served on the staff of five hospitals.

#### HISTORICAL

I think you have chosen well in appointing the subject of discussion, for it is nineteen years since a similar general debate on it has taken place, as far as I am aware. In 1900, Dr. Radcliffe Crocker opened at his own house a brilliant discussion on lichen planus and the lichens, and I recall with pleasure that my old friend, Dr. Oliver Ormsby, your distinguished secretary, was present at that meeting, and has already borne generous testimony to the value of the discussion. It is somewhat a humiliating reflection that very little progress has been made in these nineteen years in the elucidation of the causation of the disease. Now, as then, we must review theories, none of which can be regarded as proven; we must collate personal experiences and correct by that means the narrower conceptions which individual observation would lead us to form. We may, perhaps, congratulate ourselves that we have simplified the terminology considerably and got rid of not a few confused generalizations and classifications. The tendency has undoubtedly been to restrict the term lichen more and more closely to the single affection known so widely on the continent under the name of lichen of Wilson, for it was Erasmus Wilson who first differentiated it from a very chaotic group of diseases, and who well deserves to have his name associated with it.

#### NOMENCLATURE

Indeed, there is much to be said for a French suggestion that we should entirely discard all other names and speak simply of lichen of Wilson when we mean the disease thus made an entity by him. The adoption of this terminology would spare us the incongruity of

writing such inconsistent titles as "lichen planus acuminatus," "lichen planus verrucosus," which are obviously contradictions in terms. But until some such simplification is universally agreed on, the inclusion of the appellation "planus" is absolutely necessary to avoid confusion with other diseases in which the term "lichen" is still in use. One step in simplification should be immediately made. Since 1900 lichen scrofulosorum has definitely taken its place with the follicular tuberculids, and there is no excuse for retaining lichen in its name; and lichen ruber acuminatus, which is used in Crocker's textbook, is universally recognized as synonymous with pityriasis rubra pilaris, and the latter name should be accepted as definitely replacing the German title, more especially as pityriasis rubra pilaris is now known to have no relation with lichen planus of Wilson. In this paper, therefore, detailed consideration will be made only of lichen of Wilson and its many and important clinical variations.

*Sex Incidence of the Disease.*—I have notes of 150 cases of lichen planus observed at St. Mary's Hospital and 120 cases in private practice. Of these 270 cases, 171 were in females and 99 in males. Comparing the incidence before and after August, 1914, i. e., before and after the war broke out, there is a slight but significant difference noticeable. Thus, before this date the ratio of men to women is six to eleven. After this date the ratio is four to eleven. The difference is explained in all probability by the circumstance that one's male patients of all kinds decreased materially with the progress of war and the conscription of adult males, rather than that the ratio was altered for any other reason. Crocker gives a similar sex ratio for English cases, although he notes that continental experience sometimes reverses this ratio. Thus Brocq's figures, published after Crocker's celebrated paper, induce him to say that the disease is pronouncedly (*sensiblement*) more frequent in men than in women, and that notwithstanding the fact that Brocq includes in lichen many cases that English authors would group with his own nevrodermite, which is practically confined to women, at any rate in our experience. The same or an even greater preponderance of males is noted in German statistics, and this curious discrepancy with English experience is to be noted, but not readily explained.

*Age Incidence.*—I produce a curve of statistics (Fig. 1) from my own cases arranged in quinquennia, from 5 to 85. The youngest age in my list, of undoubted lichen planus, was 4 years. The oldest age was 81. It is to be noted that the highest incidence of the disease is between 35 and 55, a period which covers the climacteric in women.

*Incidence of Occupation or Social Position.*—The disease is at least twice as common in private as in hospital practice. This is the experi-

ence of all observers, and it has, I think, a bearing on etiology. The cultured and intellectual person is more likely to be a victim than the manual worker.

*The Mode of Onset.*—The mode of onset was acute in an unusual proportion of the cases. In one, a young man, the eruption followed within three days of a sudden immersion in the river while boating. He was unable to swim and clung to his boat for several hours until rescued; within three days a very extensive eruption of typical papular lichen of Wilson developed. It would be difficult in this case to decide between the supporters of shock and the supporters of chill as causative factors. Dawson showed at the Dermatological Society of Great Britain and Ireland an exactly similar case. In another case of mine



Fig. 1.—Age incidence in author's cases of lichen planus.

a lady of 49 developed a rash all over her body in one night, and was thought to be the subject of scarlet fever. Morris has seen a similar instance of universal eruption in a night. Some of the linear cases were surprisingly acute; thus in a gentleman of 51, who had suffered the most extraordinary series of personal losses, a broad band of lichen planus was completed from buttock to ankle within six weeks. These cases are paralleled by others that I have seen at our society meetings. In several instances there was general illness and arthritic pain. In one of my cases during the acute attack bullae were noted in some of the lesions, and Lancashire reported a similar happening. In opposition to Whitefield I believe bullae indicate a severe and acute onset.

*Initial Lesion.*—Three types may be described: (1) Plane papule, pink to blueish red; (2) acuminate papule; (3) white papule, initial stage of lichen planus atrophicus.

1. *Planus Type of Lesion.*—No doubt the plane papule is the commonest manifestation of the disease. The eruption may appear in one of two forms, or these may be combined in the same patient at the same time. 1. There may be discrete, flattened, shiny papules, of a more or less vivid red, varying from about 1 to 5 mm. in diameter, usually grouped together in bunches in certain favorite sites. 2. There may be numerous irregularly shaped patches which are very slightly scaly, of a deeper blueish red than the individual papules, and these patches may attain sizes varying from half an inch to several inches in extent. The patches are probably made up of individual papules, the intervals between them being bridged over by fine scales which can be removed by maceration, when the discrete papules are often demonstrable. However large and chronic the patch may be, there is never the heaped-up, stratified scale of psoriasis, a fact which is useful in differentiating these diseases. Crocker taught that the typical plane papule is umbilicated, and explained that the umbilication was due to the fact that the normal site of the papule was round a hair follicle. Numerous histologic investigations have disproved this explanation. I do not think the observation is sound, either; I have never satisfied myself of the occurrence of umbilication with any frequency.

The *color* of the papule may vary in Europeans from a characteristic pale pink to a deep brown. There is a conflict of testimony as to the color of the initial papule in the dark-skinned races. I, myself, have never seen the disease in the negro, but I noted in a Hindu student that patches of hypertrophic lichen planus assumed a remarkable deep blueish tint, and I saw a case of Galloway's, in a Chinese adult male, in whom the lesions were a slate color; Crocker records a case in a Hindu boy, aged 4, with white papules, and Pringle showed a case in a colored girl, aged 28, with papules "paler than the normal skin and contrasting with it." Lesions on the mucosa of the mouth and vulva are white in Europeans, apparently hyperpigmented in dark races. On the glans penis, which is only partially mucosa, the lesions are usually pink, but may be white. My present audience will no doubt be able to tell me much more than I can tell them as to the appearances in the negro.

The *size* of the papule is surprisingly constant, even in old-standing cases, for, as I have indicated, the chronic patches can usually be resolved into individual papules. The average is from 1 to 5 mm., but this size may be exceeded in apparently individual papules. I have seen a group of lesions which could only be described as nodules, a good quarter to half an inch in diameter, and a similar-sized papule has been described in the extremely rare moniliform type, of which I have never seen an example. (Bukovsky has reported a case with



lesions the size of hemp seed.) When the papule appears to be larger than the limits here mentioned it is probable that what looks like a single lesion is really a conglomeration of several.

The *shape* of the papule is determined by the natural lines of the skin, which form its boundary. This "quadrillage," as the French style the four-sided areas of skin enclosed by the lines, can be seen to best advantage on the dorsum of the hand. It is to be emphasized that this is not a follicular distribution, and I contend that this is by far the commonest distribution and should be regarded as the type.

The burnished *surface* of the papule,, the mother-of-pearl sheen which it assumes, has, I think, been somewhat unduly stressed as being of special diagnostic import. This feature is most perfectly imitated by the lesions of papular urticaria in children, and led so acute an observer as Colcott Fox to class this latter affection as "lichen infantum," a classification which he entirely repudiated in after life. As I shall emphasize later, any case reported as lichen planus in infants must be most carefully scrutinized, and the great majority of such cases must be rejected as instances of this confusion with urticaria.

In larger and older lesions sometimes there may be seen a peculiar surface striation, looking like tiny grayish scratches on the elevated plateau of the papule. These were first noted by Wickham, and when present are very characteristic. But in my experience they are infrequent, and seldom afford any real help. These lines have been explained by Darier as being caused by the unequal deposition of eleidin in the granular layer, which is usually much thickened in lichen planus. I am reluctant to accept this explanation, for I believe this striation to be an infrequent happening, whereas the granular layer is so uniformly increased in this disease that I should be loth to accept the diagnosis of lichen planus where this feature was at fault, and for this reason I disputed the identification of a case shown by Sibley as lichen obtusus in which the histologic report emphasized a diminution in the granular layer.

2. *The Acuminate Papule.*—There has been much controversy as to the meaning of acuminate eruptions in lichen planus, and the identification of the acuminate rashes with lichen of Wilson. I do not think an eruption entirely acuminate could be distinguished from pityriasis rubra pilaris, and there is now no doubt that the older cases described as lichen acuminatus are instances of that disease and not of lichen of Wilson. But in lichen of Wilson not infrequently acuminate papules are met with during, before or after the eruption of plane lesions, and form part of the picture of that disease. The acuminate papule is always follicular in position, with rounded not quadrilateral outline, and presents a central plug which may be shelled out, leaving an

umbilication; the papule is reddened and shows clinical and histologic evidence of inflammation. It is usually itchy, and it is not grouped in circinate patches, such as are found in lichen spinulosus, from which it may be difficult to differentiate this variety of lichen of Wilson.

*The White Papule of Lichen Sclerosus.*—Ormsby has established beyond any question the observation of an initial white (not red) papule, situated at the pilosebaceous or sweat duct orifice in the rare clinical type of the disease presently to be described under the name of lichen sclerosus. I have seen only one example of this variety, and that quite recently, and it is probably the rarest of all the recognized types, at any rate, in my own country. I therefore borrow the description given by Ormsby, who had the extraordinary fortune of observing six cases, and whose paper constitutes the "*locus classicus*" of this rare form of the disease.

The papule is white, ivory yellow, or like mother-of-pearl, firm to the touch, bends with the skin and when grouped may be wrinkled. Often it shows no areola and no signs of inflammation, but there may be a zone of redness or pigmentation round it. The papules may be discrete or grouped or disposed in lines. They usually leave soft, white atrophic areas of the shape and the size of the original papules. On the surface of the papule, which is flat and often polygonal, like the plane lesion, there are comedo-like plugs or minute depressions from which the plugs have escaped.

#### HISTOPATHOLOGY

The histology of the plane papule has been diversely described probably because, as Brocq has suggested, different observers have taken lesions at different stages of development. Making allowance for this fact, there emerges from the general reports a fairly specific picture which indeed is sufficiently constant to enable one almost to make a diagnosis of lichen planus from histologic examination alone.

1. *Changes in Corium.*—Most observers are agreed that the process begins in the papillary body, with a round-celled infiltration about the vessels, which are much dilated and cause a consequent enlargement of the papillary body. The nature of the cellular infiltration has been much disputed. Fordyce, whose work on the histology of the disease carries most conviction to my mind, describes the cells as both connective tissue and leukocytes. Pinkus describes the infiltrate as comprising lymphocytes, plasma cells and endothelial cells, with a predominance of leukocytes. Torok and Sabouraud emphasize the mononuclear character of the infiltrate, and Sabouraud describes the occurrence of giant cells of epidermic origin, but situated in the corium as well as polynuclear "zosteriform" cells, observations which I have

not seen confirmed. Crocker and some other observers describe the papule as centering around a sweat duct, and Joseph alone, as far as I have been able to go into the matter, actually claims to have demonstrated cystic dilatations of the sweat ducts in several varieties of lichen planus.

Sabouraud lays stress on a feature which he claims to be common, namely, the inclusion of cell nests of the epidermis, prolongations of which into the corium are cut off and embedded in the papillary zone. There is a very general agreement that lacunae between the corium and epidermis are common. Joseph, Fordyce, Whitfield and others ascribe them to vesication. "It would seem," says Civatte, in Brocq's article in *La Pratique Dermatologique*, "that at certain points, especially in the center of the papule, an exudate has separated the lowest layers of the epidermis from the mass of round cells which constitute the papule. There is in this position a veritable cavity." It is somewhat difficult to reconcile the frequency of these "microscopic vesicles," as shown by histologic investigation, with the rarity of clinical vesication, a point which will be dealt with later.

*Epidermal Changes.*—Most writers agree that the epidermis is thickened, the stratum corneum and the granular layers being hypertrophied, especially the latter; the eleidin is irregularly deposited, but usually three or four layers of eleidin-charged cells may be made out. This is, to my mind, one of the most important features of the histology, and is common to all the varieties of true lichen of Wilson. There is a considerable leukocytic infiltration of the epidermis, and inter- and intracellular edema. Later the rete pegs become flattened, so that the epidermis actually looks thinner, a point much stressed by Sabouraud. As already mentioned, the basal layers of the epidermis become disorganized, and separation from the corium occurs. Most observers describe a colloid degeneration of the prickle cells, and Fordyce has explained umbilication, in contrast to Crocker, who regarded it as due to the depression of a sweat duct, by the suggestion that the reinforced horny and granular layers press on a weakened rete and sink into it.

Engman has made a valuable contribution to the histologic explanation of hyperpigmentation in old lichen planus papules. He regards the pigment cells as derived from connective tissue, and therefore protoplasmic in origin.

2. *The Acuminate Papule.*—This lesion has a very distinct histology from that of the plane papule. It centers round a hair follicle and there is consequently a strong superficial resemblance to the papule of pityriasis rubra pilaris, from which it is differentiated, according to Unna, by the presence of edema, the colloid degeneration of the epithelium, the hyalin degeneration of the blood vessels, and the fibrosis

of the connective tissue. The stratum corneum and stratum granulosum are, as in the plane papule, notably thickened.

3. *The Initial White Papule of Lichen Sclerosus.*—The recognition of this form was first made by Hallopeau, who thus describes the histology, and Ormsby confirms the accuracy of the description: The papillae are atrophied. The stratum corneum and stratum granulosum are thickened; the rete, on the other hand, is diminished in thickness. The corium is sclerosed, notably in the papillary zone.

4. Numerous investigations established the histologic identification with lichen of Wilson of its clinical varieties, lichen hypertrophicus, verrucosus, obtusus, etc.

*Histology of Lichen of Mucous Membranes.*—Poor, Favera and others have demonstrated the close similarity of the histology of these lesions with those of the plane papule on the skin.

*Distribution of the Plane Eruption.*—This is singularly constant in certain sites of election, of which the front of the wrist, the inner side of the knee and the nape of the neck are perhaps the commonest. Next in frequency are perhaps the sacral region, the upper and anterior aspect of the thighs, the chest, the flexure of the elbows, the lower abdomen. This distribution is in the great majority of cases symmetrical, exception being made of two clinical varieties, the linear and hypertrophic forms, which are markedly asymmetrical.

Lichen planus shares with some other diseases the quality that areas of friction or injury are often, when the disease is in an active phase, the site of subsequent thickly grouped papules, so that the site of impress or line of a scratch or a constriction may be thus marked out by a special invasion of the disease. I have seen a remarkable case of a fat young Jewess in whom vanity compelled the wearing of corsets much too tight, and who showed a perfect band of lichen planus limited to the deep furrow where the corsets gripped the skin. There is a similar remarkable instance in a model of Baretta's at St. Louis Hospital of a man with bands of lichen planus in the site of the pressure of braces. He was a market porter, wearing very heavy trousers and carrying weights, which probably added to the effect of constriction. I have seen it affect the site of a wound on the dorsum of the hand in a soldier and in the depression of a truss worn for hernia.

Indeed, the theory has been promulgated, notably by Jacquet, that the eruption of lichen planus is the result in all cases of injury, usually of scratching, and on this hypothesis the itching precedes the eruption, and scratching determines its distribution. The discussion of this point will be reserved to the chapter on etiology.

The disease is exceedingly uncommon on the face, the hands, the feet and the scalp. In my records I have noted the disease twice on



the scalp, nine times on the dorsum of the hands, six times on the face, four times on the dorsum of the foot, once on the palms, and once on the soles.

*Generalized Lichen Planus.*—In very rare instances the whole surface of the body may be affected. Some of these generalized rashes, diagnosed as lichen planus, may be more properly included under the heading of lichen variegatus, to which allusion will be made later. I have had a case of generalized lichen planus in a man of 50 in whom only the mucosae were free; and I saw a boy of 16 whose whole surface, with the exception of the face, was involved. Whitfield showed a man of 60 whose whole body was invaded, including the mucosae. Galloway brought to one of our meetings a woman, aged 27, in whom only the face, scalp, hands and feet were free, and the mucosae in this case had also escaped.

*Mucous Membranes.*—The tongue is less frequently diseased than the mouth, and the lip least of all. Pringle showed a very unusual involvement of the lower lip alone of the mucosae, but with typical disease elsewhere, in whom the whole lower lip was occupied by an asbestos-like cake. I have seen a case in which the tongue and lip were affected for two months before a wider eruption on the skin occurred. Douglas Montgomery records a case in a woman in whom the disease was confined to the tongue.

The mucous membrane of the cheeks is probably the most common of the mucous surfaces to be affected. I have seen instances of a ridge-like elevation, running along the line of demarcation between the closed teeth as well as the more common white patches, much like the deposit of cream in a person who has just taken a glass of milk. My own figures of the incidence of mouth lesions, including tongue and lips, is twenty-three of the 150 hospital cases and twenty-five of the 120 private patients (men and women equally frequent. The equal incidence in women is noteworthy; mouth diseases are commoner in men. In three of these cases the mouth alone was diseased, and in two of these the patients were mother and son, the mother showing extensive involvement of the tongue and cheeks, the son, of the tongue only. In private practice the incidence is greater, no doubt, because examination is more careful in such cases. Other observers give a much higher proportion. Thus, Herxheimer found the mucosae affected in 93 out of 127 cases. Troutmann, in 150 cases of lichen planus, found the mucosae involved in 61 per cent., and in 16 per cent. the mucosae alone. Dubreuilh makes the somewhat extraordinary statement that in his experience the mucosae are more often affected without the skin than is the skin without the mucosae.

I believe I have seen instances of Fordyce's disease with quite unusual frequency in lichen planus and would like to ask whether in the experience of my present audience that is the case. It is, of course, open to say that I have mistaken patches of lichen planus of the mucous membranes for Fordyce's disease, but I am naturally disinclined to accept this imputation.

The *vulva* is probably far more often the seat of disease than any figures would indicate, as this part is seldom examined. My own figures are three hospital cases and one private case, and it is interesting to note that in one case the same part was again attacked in a recurrence six years later. The degree of involvement may be very serious, as in a case shown by Morris in a lady whose whole vaginal tract was leukoplakic. The same observer showed another case in which one labium majus was the seat of an excrescence, as big as an orange, of hypertrophic lichen planus. Crocker demonstrated lichen planus of the vulva in a little girl of 3½ years. Montgomery and Culver report a case occurring in a woman, the subject of atrophic lichen planus of the skin, in whom the condition of the vulva recalled the aspect of kraurosis vulvae, which the authors suggest may sometimes be a lichen planus. I had for some years under my care a lady with hypertrophic patches on the thighs, and a most obstinate affection of the vulva, persisting long after the removal of the skin lesions and causing intense irritation, only controlled by small doses of ionization.

The *glans penis*, as Bulkley long ago was the first to point out, may be the site of disease. Two forms of eruption may occur either as in the mouth, of white ridges, or of more common red papules, often arranged in ringed shapes. Indeed, annular lichen planus seems to occur not infrequently on the penis, both on the glans and the body of the organ; Adamson, MacLeod and others have shown several cases. Shillitoe showed us a very curious case in a man who had started a lichen planus, commencing on the penis and spreading elsewhere, apparently as the result of a rather violent coitus. I showed a case of an elderly man with lesions confined to the penis, and I had another patient, a doctor of 29, whose eruption was limited to the penis and scrotum. I have seen distributions on the penis in ten cases in all. Joseph reports an instance of lichen planus of mouth and penis only, which was controlled by arsenical treatment.

*Conjunctiva*.—I have found only one instance of this involvement, a case reported by Gaucher, in which there was a white ridge on the palpebral conjunctiva exactly comparable to the white lesion of the mouth, in a case of general lichen planus, with a singular affection of the nails as well. There was no itching attributable to the ocular lesion.

It is universally agreed that the degree of involvement of the mucosae bears no relation to the general severity of the disease, and indeed Crocker held the opinion that the affection of the mucosae was in inverse proportion to the degree of invasion of the skin.

*The Nails.*—Few authors make mention of any specific affection of the nails, and Crocker states explicitly that there is nothing distinctive in the involvement of the nail in lichen planus. I have recently seen a case in which the diagnosis between psoriasis and lichen planus was rather difficult, but was decided for me as a lichen planus by the observation of the raindrop pigmentation over the back in the site of earlier lesions. The nails in this case were pitted as one sees often enough in psoriasis, but they also showed longitudinal flutings, and this combination has been described in lichen planus by Dubreuilh and by Gaucher. I believe that the nails are very seldom attacked by the disease, and the silence of most authors on this subject is certainly suggestive and noteworthy.

*The Scalp.*—This is one of the most infrequent sites, and I have record of only two cases in my list. In neither was there alopecia, which has been recorded in most of the few other cases of this distribution which I have been able to note.

#### CLINICAL VARIETIES

*Clinical Varieties.*—This may perhaps be the most convenient place to discuss this important branch of our subject, for three of these varieties depend on their odd distribution for their differentiation. Two of these varieties, linearis and annularis, are fairly frequent; one, moniliformis, is extraordinarily rare.

1. *Lichen Planus Linearis.*—I have had thirteen such cases in my own experience, of which five occurred in children under 12 years; I have hesitated to include with these cases a girl, aged 18 months, whose picture I show (Fig. 2), but Brocq mentions as an undoubted lichen what seems an even younger case, a girl aged 4 months, very like this in history and aspect, and I am fortified by his authority in ranking my case with lichen planus. My own experience in this matter seems a faithful reflection of general experience, and shows a remarkable incidence in children, and a great preponderance of eruptions on the lower as against the upper limb, for eleven of the thirteen cases were on the lower extremity. In about half of the cases there was typical lichen planus elsewhere.

The nature of these cases has always puzzled me, chiefly because of the most unusual incidence in children. I shall refer later to the rarity of the disease in the young, but it will at once be obvious that there is an extraordinary inversion of our common experience in finding

nearly half of the cases in this group occurring in childhood. In one adult case I was able to demonstrate the commencement of the line in the left popliteal space of a woman, aged 40, in whom the line became subsequently extended upward to reach the buttock by accretion of

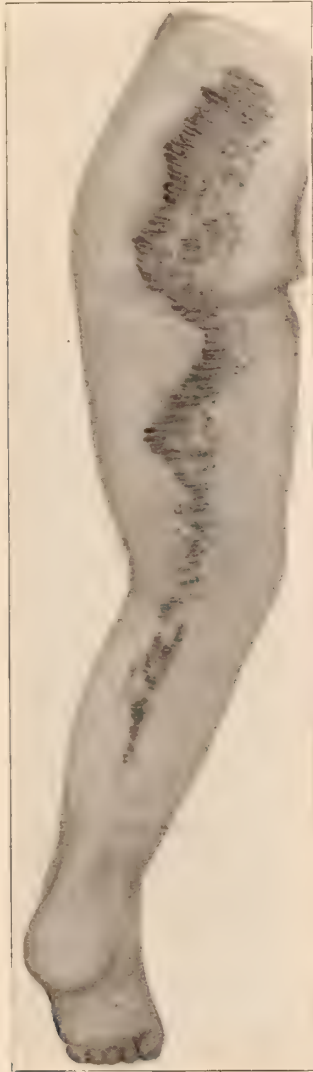


Fig. 2.—Lichen planus linearis in a girl of 18 months.

quite typical planus papules. And Pringle showed an almost exactly similar instance, oddly enough in a woman, aged 34, and commencing in the left popliteal space, but twenty years earlier in date than my case. In this patient also the line became slowly completed by extension upward and downward.



I have been struck, on the other hand, by the remarkable rapidity with which a solid line of papules three feet in length has been built up. I show the photograph of this patient, a man aged 51, who developed the whole extent of the disease shown (Fig. 3) within six weeks. Galloway exhibited a case in a woman of 45 who had grown a ribbon-like line from buttock to heel within one month. Whitfield reported a



Fig. 3.—Lichen planus linearis in man of 51 years.

case in a girl of 6, in whom the eruption had come "on at one time over the whole extent" three months previously.

*Points to Remark in This Clinical Group and Calling for Explanation.*—These are the asymmetry, for it is extremely rare to find the lines other than unilateral, the incidence in children, the preference for the lower limb which is affected in five sixths of the examples, and

the intractability to treatment (e. g., Stowers mentioned a case in a child, from heel to buttock, which persisted for two years). No satisfactory explanation of this distribution has been forthcoming, for it does not coincide with the distribution of individual nerves, as has been assumed sometimes, nor of nerve segments as described by Head and his followers, nor of Voigt's lines, as has also been assumed, e. g., by Meyer. It is somewhat noteworthy perhaps that one does not find, or at least I have not met with, pigmentation or atrophy in these linear examples, results not infrequent in true lichen planus. I mention these discrepancies of experience without any attempt to explain them, and hope to get some help from my audience in a special variety of the disease of which I have had numerous examples and which has interested me especially.

*Lichen Planus Annularis.*—In this variety the lesions are grouped in the form of small rings, the average size of which is about half an

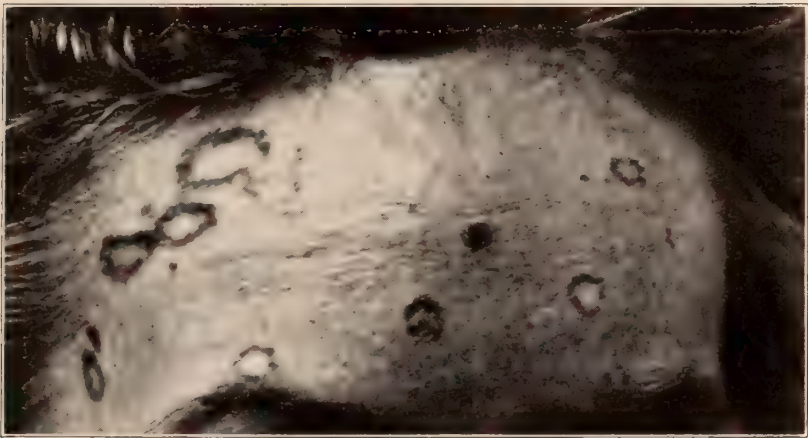


Fig. 4.—Lichen planus annularis of the forehead.

inch in diameter. There has been some controversy as to the mode of development of the lesion, whether the ring results from a circinate juxtaposition of individual papules, or whether from an involution of a large papule or patch which clears in the center while remaining active at the periphery. The latter mode of progress was advocated by Cavafy and disputed by Crocker, but its truth has been established by overwhelming evidence. Lichen planus annularis, at one time considered of great rarity, is certainly not as infrequent as has been supposed. In my own series I have record of twenty-two instances, nearly 10 per cent. of the whole, so that it comes next in frequency of the special varieties to lichen planus hypertrophicus. Adamson notes its increased frequency in the last few years and has made the suggestion

that this type of lesion indicates a severe attack, but as far as my experience goes, the annular rashes have been, on the whole, scanty and distributed in somewhat unusual positions. The most striking instance of this combination came into my consulting room less than six weeks ago, showing an eruption absolutely typical of lichen planus annularis and limited to the forehead, where it had begun four years ago. The oldest lesion was of this date, the most recent had come within the previous six months. There was and had been no eruption anywhere else, and the mucosae of the mouth and vulva were free (Fig. 4). The patient gave a very suggestive history of continued nervous strain occasioned by nursing an insane father for several years. Another position in which annular eruption is met with unduly frequently is the penis, and perhaps the dorsum of the hands. Brocq records a case in which annular lesions occurred on the cheek of a man, and notes its resemblance to lupus erythematosus, a resemblance all the more striking as secondary atrophy would seem to be commoner in this type of lesion than in ordinary lichen planus. Engman has made this subject his own, and I hope he will expand my imperfect sketch of this most interesting variety. This form is apt to be confused with the quite distinct disease, "lichen annularis of Galloway," to which reference will be made later.

*Lichen Planus Moniliformis*.—This variety, described by Kaposi, I have never seen, and as I can bring no personal experience to bear on it, I do not propose to spend much time on its consideration. It is described as a nodular eruption with lesions the size of hemp seeds (Bukowsky), arranged in a reticuliform or necklace-like shape, apparently following the distribution of veins. Its identification with lichen of Wilson has been disputed, and I mention it only for the sake of completeness. A reticuliform distribution of ordinary plane eruptions has been noted several times, and Payne made an early observation of the part played by varicose and dilated vessels in determining the incidence of the rash, an observation which Dore has repeated.

Zoniform arrangement of plane papules is reported in some instances (Pink and Morris), and, I believe, may sometimes be explained by the tendency well known in this disease for selection of sites of injury, so that the distribution of an earlier herpes zoster may be copied by a subsequent lichen planus.

So far we have discussed clinical varieties whose differentiation has been determined by peculiarities of distribution. We shall now consider some variations the differences of which are constituted by differences of the elementary lesion, and its development.

*Lichen Planus Hypertrophicus or Verrucosus*.—An analysis of my cases shows that this is the commonest of all the special varieties, for I

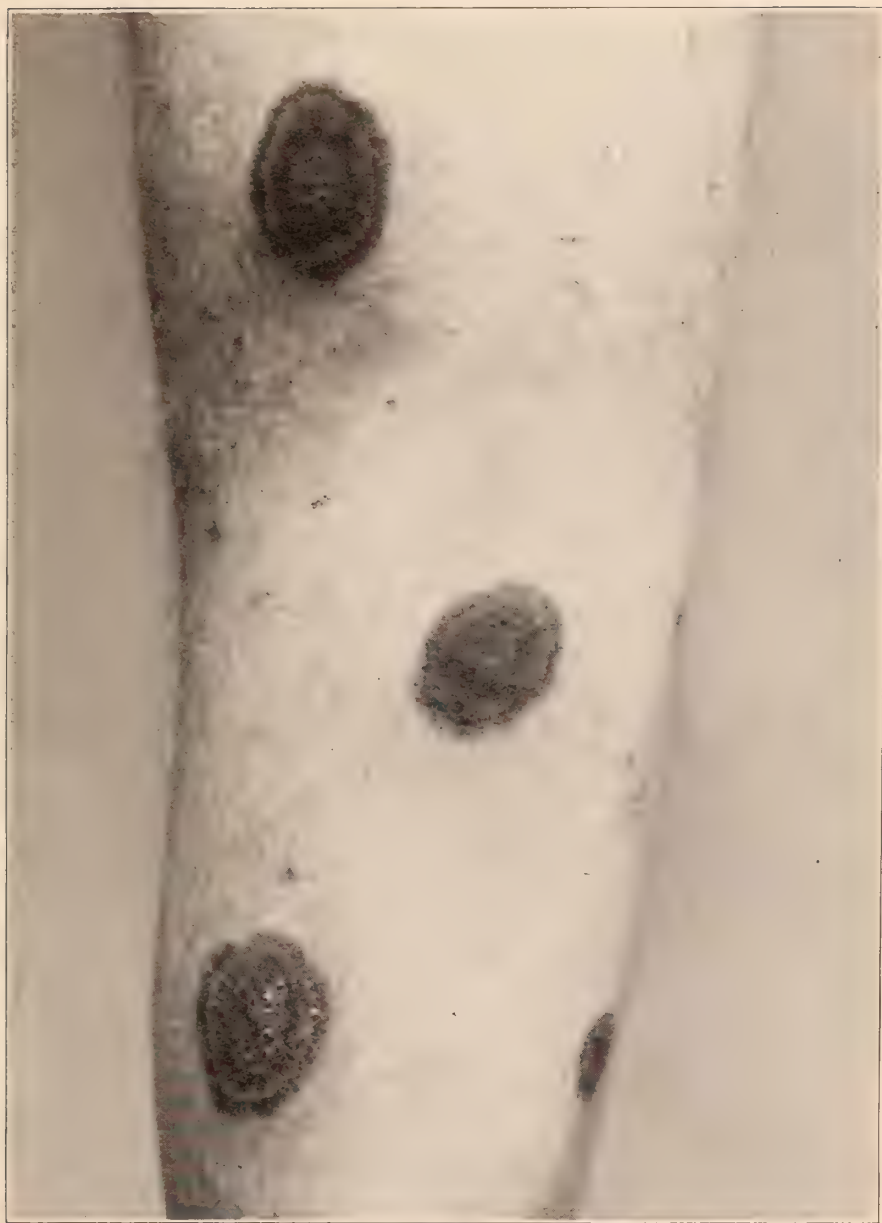


Fig. 5.—Lichen planus verrucosus.



have recorded it in forty cases, twenty-four men and sixteen women. The initial lesion in this form has usually been thought to be acuminate, but the hypertrophic type is quite common in association with ordinary planus eruptions. I have recently seen an old case of my own, which shows only a single hypertrophic patch on the left knee, of recent development, but this patient six years ago was under my care with an extensive planus rash. The persistence of hypertrophic lesions is much greater than that of any other type, and I have histories of seventeen, twenty and even more years during which the patch has resisted all treatment. The warty growth may attain a great size, as in the case of Morris's, which showed an excrescence on the labium majus the size of an orange. This type is scanty in distribution, often unilateral, and far more frequently situated on the lower than on the upper parts of the body, a distribution which may be explained, as Payne suggests, by the frequent association with varix of veins. The right knee is apparently the commonest site. In two instances I have seen hypertrophic patches on the forehead, an experience repeated by Pringle. Much less commonly the hypertrophic form precedes the eruption of planus papules, as in cases shown by Stowers, Meachen, Pringle and, no doubt, others. Hypertrophic lesions may be, very rarely, of extensive distribution, as in a case shown by Morris, with almost generalized hypertrophic lesions, and in a very anomalous patient shown by Douglas Heath at a recent meeting of our section, in which long-standing nodules were present on the chest, the knuckles, the neck and elsewhere. Usually the hypertrophic patch persists indefinitely without undergoing any special change. I have notes of a case in which a fungating and ulcerating condition supervened on an old patch, and Pringle showed a similar ulcerating termination of a hypertrophic patch as well as an instance of involution in the center of a verrucose patch which thus became converted into a ringlike area.

In a quite unique case which I showed to our sectional meeting without getting any firm diagnosis as to its nature, but which I regard as an anomalous lichen planus verrucosus (Fig. 5), the patient was a man, aged 45, and when seen he had some thirty patches of warty growth on the legs and thighs, with a few on the forearms and trunk, sharply circinate, raised from the surrounding level by a good quarter of an inch, and of a deep blueish-red color in the center, with a vivid red areola as a boundary to each patch. The history showed that the patches began as small red areas. The patches itched only when they became large, and showed no tendency to disappear, so that while new ones came the old ones remained. The disease had lasted for six months, and there was no involvement of the mucosae.

*Lichen Planus, Variety Obtusus-Corneus.*—Both adjectives, obtusus and corneus, are required to describe this type, as lichen obtusus

of Unna is quite a different variety of doubtful identification. This is certainly one of the rarest forms of the disease. A case was shown at our sectional meeting in July, 1916, which was described by its exhibitor merely as a case of lichen planus, and its nature would have escaped recognition other than as an odd type of lichen planus had not Adamson established its identity with a case described a short time previously by C. J. White, and properly identified by him with the French cases of lichen obtusus. We had not apparently had any similar case before us in the history of the section, but as so often happens when attention is directed to a disease, other instances have appeared. Since then I have had two cases, both in women. The histology of the varieties, obtusus and hypertrophicus, is characteristic of lichen planus, and it is probable that the initial lesions in each is the acuminate and not the plane papule.

*Lichen Planus Sclerosus*.—I have commented on the extreme rarity of this form in England. I saw the first case I have ever met with, either in my own practice or at society meetings, only a few days before I sailed. The patient was a South African soldier of 24, who showed on the dorsum of both hands a number of fairly characteristic planus lesions, of typical bluish red color, flat and somewhat larger than usual, 3 mm., for instance, in diameter. These lesions were itchy and had persisted for over a year, and had made their first appearance in Palestine. On the flexor aspect of the right forearm there were some thirty grouped white lesions, some of the "white spot" type, but the more recent of these, which had come out in the previous five months, were exactly like the lesions so well described by Ormsby, small mother-of-pearl-like, flat, white papules about  $1\frac{1}{2}$  mm. in diameter, with no inflammatory redness. The mucosa of the mouth and penis were free of disease. In two of Ormsby's six cases there were also plane lesions mixed up with but quite independent of the white papules, as in this case.

I believe this type is to be distinguished carefully from the not uncommonly encountered cases, in which ordinary pink plane lesions undergo some degree of secondary atrophy, but without passing through the white-papule phase which is distinctive of this variety. It is to be noted also that this variety seldom itches. Ormsby's six cases were all in women, and it would appear to be especially rare in men.

*Lichen Planopilaris*.—Under this title Pringle proposes to describe those infrequent instances in which an eruption of plane papules is accompanied by an eruption of spiny follicular papules, indistinguishable from those of lichen spinulosus. I have had six examples of this type, all in women. The follicular papules are differentiated from the acuminate papule of lichen planus by the absence of any inflammatory

redness and the complete absence of itching, and differ from those of lichen spinulosus in not being grouped. Cases have been shown by Ormerod, Eddowes, Colcott Fox, Wilfred Fox, Adamson, Pringle and others.

*Lichen Spinulosus.*—MacLeod and Dore exhibited cases which elicited important discussions as to the nature of this type. MacLeod's patient was a boy of 12 who, since the age of 8, had had an eruption of lichen spinulosus, but at the later age had developed a typical eruption of lichen planus, apparently quite independent of the older disease. Pringle, Adamson and Whitfield argued the view that lichen spinulosus in children is, in fact, lichen planus, that being the juvenile form which the disease takes; when spinulosus occurs in adults it is succeeded by typical planus. MacLeod expressed the opinion that his case was an example of the accidental association of two distinct diseases, a view which I have supported in presenting another similar case. I am especially interested in this question because I have drawn attention to another syndrome in which lichen spinulosus also plays a part, perhaps a fortuitous part. This is the syndrome of which I showed, I think, the first example, but which was speedily followed by cases published by Dore and Wallace Beatty, respectively, and consists in the combination of a folliculitis decalvans of the scalp and hairy parts, with a lichen spinulosus, in the form of noninflammatory papules, grouped exactly like the juvenile disease, but in all three cases occurring in adults.

*The Relations of Lichen Spinulosus With Lichen Planus.*—Adamson has made the most authoritative contribution to the elucidation of the nature of lichen spinulosus. The following is his description: "The disease is met with chiefly in children, more commonly in boys, and is characterized by fine filiform spines arranged in groups more or less symmetrically distributed over the trunk and limbs. The filiform spines arise from pilosebaceous follicles, the mouths of which follicles are slightly raised to form pin-head-sized papules either of the normal color of the skin or slightly red. They are unaccompanied by itching or other subjective sensations, and there is little or no disturbance of the general health." Histologically, Adamson found little or no affection of the corium and, in particular, no definite round-celled infiltration. The sebaceous glands were atrophied. The granular layer was deficient. Adamson says expressly that there is no evidence to connect the disease with lichen planus, but I am not clear as to his position in the controversy, as some of his later published statements seem to indicate a belief in the essential approximation of the two diseases. I have collected my cases of lichen spinulosus seen at St. Mary's Hospital, but not those seen by me at the East London Hospital, a far

more numerous list, but one not so easily sifted. I have full notes of eighteen patients, of whom twelve are girls and six boys, thus reversing Adamson's figures of sex incidence. The ages vary from 4½ to 13. The onset was usually acute; the duration of the disease when seen was under six weeks in seven of the eighteen cases. In three cases only was any itching felt. I had opportunities of examining sections from some of these cases and was impressed before the publication of Adamson's paper with the complete dissimilarity to lichen planus, and for these and other reasons I am unable to subscribe to the view expressed by Whitfield and others that lichen spinulosus is a phase of lichen planus, or, indeed, that there is any connection between the two diseases.

*Lichen Simplex Chronicus of Vidal; Neurodermite of Brocq.*—At the first full-dress debate on lichen planus recorded in our journals, that of the congress in Paris in 1889, Vidal pleaded eloquently for the inclusion of his clinical group with the lichens, though he did not claim its identity with lichen of Wilson. Brocq does, in fact, in the article quoted include the consideration of neurodermite with the lichens, giving it a separate chapter to itself. Most writers, however, now make a complete separation of this group from lichen planus, and this course seems inevitable in our present state of knowledge. Many writers, indeed, refuse to recognize it as a nosologic entity, and group it either with eczema or with prurigo. I think Brocq has made out a case for a distinct clinical group sufficiently sharply demarcated to form a convenient class by itself.

There is much force in Pringle's statement that many cases of reported lichen simplex are really badly developed lichen planus. But I am convinced that there is a residuum of cases with very well defined differences, both clinical and histologic, which do not admit of confusion with Wilson's disease. I have tabulated the cases seen by me at St. Mary's Hospital and in private to which I have given this appellation, and they seem to me to constitute a very clear group. Bearing Pringle's warning in mind, I may say that I do not make this diagnosis in cases where there are definite lichen papules, or where the distribution suggests lichen planus, and no doubt I should deserve the reproaches of Brocq, who remarks that English authors frequently mistake his "neurodermite" for lichen planus. Brocq lays stress on the absence of the typical planus polygonal papule, with its tense surface, the linear striae of Wickham, and the umbilication which this author agrees with Crocker in accepting as characteristic of lichen planus. Of forty cases thus collected by me only four are in men; thirty-six are in women, the youngest 20, the oldest 82. Most of the cases fall between the limits of 30 to 45, and it is to be noted that they thus precede the menopause, which, however, in some histories, figures prominently as a



determining cause. In twenty-seven of the forty cases the neck was the principal seat of the disorder. Next in frequency came the flexures of the elbows and the inside of the thighs. The disease was usually very intractable, histories of from five to fifteen years being recorded. The salient facts of the group are the agonizing itching, the small area affected, and the very moderate objective symptoms as compared with the subjective. It is noteworthy that familial histories, such as that two sisters, or mother and daughter, had it, are far more often met with than is the case in lichen planus, where, as I will show, this association is excessively rare. I should hesitate to make the diagnosis in persons under adult age.

*Lichen Neuroticus of Unna.*—In the discussion of 1900, introduced by Crocker, no speaker was found able to identify this form from personal experience. Brooke said very bluntly that if cases had not been described by Duhring, as well as by Unna, he would suggest that the Sage of Hamburg had been caught napping. Certainly no case falling within the descriptions given of this variety has come under my own observation.

*Lichen Annularis.*—Galloway gave this name to a group of diseases now more commonly known under Crocker's title of granuloma annulare. Galloway, in 1900, seemed to regard his group as having relations with lichen planus, but later apparently has abandoned this opinion, which, indeed, has met with no confirmation.

*Lichen Variiegatus.*—Under this designation Crocker described a type of disease which he regarded as being of the nature of Unna's parakeratosis variegata, but which he thought ought to be included with the lichens. The condition is excessively rare, and while there is little agreement as to what clinical varieties of disease should be included under this group, there seems to be a fairly general agreement that these varieties have no connection with lichen planus. The histology of the group, moreover, differs materially from that of lichen planus. Three years ago I reported one example of this variety which was accepted by the senior members of our section as being of the same nature as Jamieson's cases, the demonstration of which had initiated the classification with Unna's cases, and which were indeed accepted by Unna himself, who saw them, as identical. The patient was an otherwise stalwart young girl of 18, who had had the eruption practically unchanged for nine years. When seen she showed the characteristic mottling and fine branny lichenoid desquamation. The history was very peculiar, for the rash had come out quite acutely in one night, so that a diagnosis of measles was made by a country practitioner. I have seen the patient recently again and there is not the slightest diminution in the eruption, which is nearly universal. Most

of the previous cases have been in men, generally robust young men, and have been equally intractable. There is, in my opinion, no evidence whatever for including them in any category of lichen planus of Wilson, and the slight superficial resemblance of the eruption to lichen—and it is a very superficial resemblance—seems to be the only reason for suggesting the assimilation.

*Lichen Nitidus*.—The eruption so named by Pinkus has been recently demonstrated to be a tuberculid and must be mentioned only to be differentiated from lichen planus.

*Involution of Eruption*.—Lichen planus may disappear spontaneously, but much more commonly, if untreated, may persist for years, especially in the hypertrophic and verrucose forms. The papule usually flattens and fades in color simultaneously, and may leave no trace, or quite commonly some degree of pigmentation may replace the original pink color; much less frequently a slight atrophy may be left in the site of the lesion or patch. The degree of pigmentation is very variable. It has been ascribed to arsenic, which is so often given in treatment, but it is certainly independent of this causation, though the arsenically treated case may show a deeper coloration. The resulting tint may be a very deep mahogany brown, almost a black, in white-skinned races. Depigmentation may in very exceptional instances take place in the site of an eruption, which has also been seen associated with vitiligo. The pigmentation usually follows the distribution of the papular eruption, being deepest where the rash is most developed. This is often in the site of constrictions, as has been mentioned; thus Galloway showed a case with a deeply pigmented band round the waist in the position of corset pressure in a woman. In at least two cases which I have seen myself the diagnosis from Kaposi's pigmented sarcoma was difficult to make, so deep was the color. This is especially true of the eruption which is found on the lower extremity, about the malleoli, a part not infrequently the site of lichen planus, and in this position pigmentation is often apt to be excessive, as one sees, for example, in varicose conditions.

Several observers, including myself, have noted that in numerous cases of eruption of the ordinary plane papules, in later stages, especially of cases treated arsenically, there is a transformation of plane into acuminate lesions, or a fresh eruption of these lesions, which may persist in this form long after the rest of the disease has entirely vanished. I have such a case under my care at present, in a lady in whom there are a few patches of skin on the thighs and buttocks sparsely covered with acuminate papules, and in this patient the earlier eruption, which was distributed extensively on the chest and arms and which was uniformly papular in type, has completely disappeared.

Such cases are again to be distinguished from those rare instances in which the plane and follicular types coexist, the so-called lichen planopilaris of Pringle, which I have already discussed.

Very exceptionally bullae may form either in the site of previous plane lesions or may be induced in these by friction (Engman, Allen and others), or may occur in the course of an eruption independently of them. I have commented under the heading of the histology of the papule on the frequency of the observation of microscopic vesicles, but clinically they are rare. I have noted their occurrence in four cases. I believe their formation is quite independent of the administration of arsenic, to which some observers have attributed this feature. I should regard this symptom as comparable to the equally rare but well established appearance of bullae in pityriasis rosea of an especially congestive type, to which I have drawn attention. I do not think there is any advantage in making a special clinical group of these cases.

*Involution of Lesion.*—Very exceptionally, there may be definite atrophy left by the lesion and in the site of it. This type, in which atrophy comes on later in the course of an ordinary eruption of plane papules, must be carefully differentiated from the even more rare group in which the initial papule is a dead white in color and is sclerotic from the commencement, lichen planus sclerosus of Hallopeau and Darier, which has been mentioned above. While discussing this heading it may be profitable to glance for a moment at a much disputed class of diseases which your writers have been largely instrumental in raising to the dignity of a clinical group. I refer to "white spot disease," which in certain instances, at any rate, has undoubtedly been identified with atrophic "lichen planus." I have expressed the view, which I hold with conviction, that there is no entity separate from lichen planus and scleroderma, to which it is necessary to give this new name, and I should personally deprecate the persistence of the use of this term, which seems to me to be both redundant and misleading. Several cases of this kind have quite recently been shown at our section and regarded with very mixed interpretations of their nature. I believe I have been in a minority in regarding some of these as lichen planus, but I hold my opinion none the less. No doubt the present audience will have some personal contributions to make to this very vexed question.

I have only once seen the development, on the site of an old hypertrophic lichen planus, of a fungating, very foul-smelling mass which looked malignant but was not so microscopically. It is certainly somewhat remarkable, when one considers the extraordinary persistence of patches of lichen planus, that malignant changes do not take place more often, especially in view of the restrictedly adult incidence, the affection of the mucosae, so predisposed to malignant developments,



and the histologic feature noted by Sabouraud, to which reference has been made, of the frequency with which epidermal cell nests are found, cut off and embedded in the corium. But I have not met with or read of any instance of undoubted malignant disease occurring in the site of lichen planus, even of the mucosae, where one would expect it to occur. Indeed, the leukoplakia of lichen planus would seem to be the most innocent form of leukoplakia we commonly meet.

*Lichen Planus in Children.*—If one excludes the linear cases with which I have dealt, one is struck with the extraordinary rarity of the disease in children. Taking twelve years as the limit of childhood, and including the linear cases, there were twelve children in all, eight girls, four boys, and the great majority of these were linear cases. This paucity of incidence in children is one of the best established facts in connection with the disease, and in my opinion affords a touchstone, or perhaps we should nowadays say "the acid test" for theories which attempt to explain causation. Lichen planus is, in my large experience of children, as rare in childhood as lupus erythematosus. The youngest age at which it has been recorded with any degree of certainty is a case of Crocker's, in a child of 3, for I am reserving judgment as to the nature of the linear cases, of which I have shown you a picture in a much younger child. Galloway showed for MacLeod a child with lesions clinically indistinguishable from lichen planus. The patient had developed the disease at the age of 16 months, the subsequent history of which is not obtainable. This case, if accepted, constitutes the earliest instance of the disease of which I have any knowledge. As I have incidentally mentioned, however, eruptions of papular urticaria in young children may simulate lichen planus with extraordinary fidelity. I have, for example, reported a case in a child of 2½ years whose eruption was accepted by a full meeting of our society as probably lichen planus, and yet subsequent developments cleared up the diagnosis as urticarial. Numerous such mistakes are to be found in the literature, and Galloway's case, at 15 months (Brit. Jour. Derm., vol. 9, p. 232); Duckworth's, at 18 months (vol. 8, p. 219; Stowers', at 10 months (vol. 11, p. 127), are all probably such examples. In fact, it may be said that the plane papule is so closely imitated by urticaria, and the acuminate by lichen spinulosus, that the diagnosis of lichen planus in children is extremely difficult.

*Familial Lichen Planus.*—It would seem to be very uncommon to meet with instances of more than one member of a family having this disease at the same time. This point was emphasized at a discussion at a meeting of our section, when two sisters were shown suffering simultaneously from lichen planus, but of different date of origin, for in one the disease had occurred at least thirty years before



the other, although when seen both sisters were affected. I had a much more striking example, also in two sisters, in whom the outbreak was nearly simultaneous, the attacks being separated only by six weeks, and in both the onset was acute and attributed to the sudden death of the father, by which they sustained a severe shock, and were plunged into poverty. I have recently seen another case in which a mother and son were affected with lichen planus, confined in both instances for the present to the mucosa of the mouth, and I have had a third instance of mother and daughter. Stowers, at the discussion mentioned, said he had seen the eruption in two sisters. Morris records it in a mother and son; Brooke in two brothers and an uncle; Brocq in mother and daughter, husband and wife; Ormerod in mother, son and daughter. The instances, however, are curiously infrequent, a fact which has a bearing on the views of causation which have attributed the disease to an infection.

*Etiology.*—I fear we are no closer to the determination of the cause of lichen planus than we were in 1900, when Crocker was forced to admit that “we cannot at present explain the pathology of lichen planus”; but it may not be unprofitable to examine some of the theories which have been invoked to cover the clinical facts. I note that a recent American writer, Chipman, ascribes to the English school the view of the nervous origin of lichen planus. This was strongly insisted on by Colcott Fox, whose consummate instinct in dermatology was seldom at fault. Certainly one gets striking histories of sudden shock preceding the eruption, or of long nervous exhaustion, for both forms of nervous disturbance are met with, perhaps equally frequently, in the narratives of patients. The following letter describes with great detail a very striking case in the person of the wife of the writer, who is a doctor of large experience and who gives much detail of nervous antecedents to outbreaks of this disease:

#### REPORT OF A CASE

The first attack was in 1886, doubtless caused by insomnia following the birth of our first child. The second attack was in 1896, the result of a busy and anxious time in the selling and buying of a practice; the third in 1918. This I attribute to the war and the departure of our remaining son to Port Said.

I should regard her as more anxious than nervous. An abstainer and nearly a vegetarian. She has never, with the exception of these attacks, been ill in her life. She has not had headaches or indigestion.

I have found arsenic the only drug beneficial, and she has taken 10 minims four times a day, but at this rate only for a short time. No outward application of any kind whatever has been other than harmful, and some terribly so. Her general condition now is that the lichen planus has practically disappeared.

The second instance is one of the most striking histories I have come across, and I have shown you the portrait of his eruption. The

patient was a man of 50 and he came to me with typical linear and ordinary distribution of the disease. In the two years prior to the onset, which was acute, the eruption being completed within six weeks, this man had lost three brothers, a sister, his father, his wife and his only child, a series of tragedies recalling the last scene of Hamlet when the stage is strewn with corpses. In addition to the shock of deprivation this patient had been confronted with the obligation to provide for four families of nephews and nieces, and the man came to me literally worn out.

It occurred to me that a test of the nervous theory was offered by the investigation of the question whether the disease has been more frequently met with in the past four years in our own country, when the strain of war has been very severe. Hebra conducted a similar inquiry to elucidate the antecedents of pemphigus: He writes: "Between 1848 and 1860 the inhabitants of Vienna passed through a period in which many of them were placed in circumstances that produced plenty of emotional excitement and also of depression. In this time there was much to rejoice over, still more cause for lamentation. There were great vicissitudes in affairs, but pemphigus was not more common than in previous years." The comparison of frequency is much more easily made in the case of lichen planus than in pemphigus, for there is far more agreement as to the features that determine the diagnosis of lichen planus than of pemphigus.

A comparison of my personal statistics with those of Crocker shows that lichen planus in the later period, represented by my cases (1902-1918), was only half as frequent as in the earlier period of Crocker. Thus Crocker in 10,000 cases prior to 1893 when his figures were published saw ninety-eight cases of lichen planus, an incidence of 1 per cent. In 30,000 cases of skin disease seen at St. Mary's Hospital I diagnosed lichen planus in 150, an incidence of 0.5 per cent. Lancashire, in his immense turnover of cases at Manchester, also gives an incidence of 0.5 per cent. If there is any value in comparison of tables of this kind, the conclusion is irresistible that the disease has become less common as a whole, a conclusion which perhaps militates against the association with nervous diseases, which, probably all would agree, have notably increased.

Now, as regards the direct effect of war, if any, the statistics are much more difficult to appraise, for it is certain that the effort which my country made was not immediately apparent; yet we are constrained to divide the periods as before and after war by the date of commencement, arbitrary as the division is. Several of my colleagues in charge of skin departments in London and the provinces have been kind enough to give me the figures in their departments. Adamson, Lancashire, Norman Walker, Dore, MacLeod, Skinner, all furnish

data which show a positive diminution in cases after 1914, as compared with equal periods before that date; and it would almost seem as if the general diminution I have noted above in comparing Crocker's figures with mine was a progressive diminution. My own figures, which show a slight increase, are: for twelve years to August, 1914, 104; for four years, August 1914-1918, 42; a ratio of 26:31.5.

The net result of these data is to contradict the impression derived from my own cases with which I admit I opened the inquiry of increased frequency in the civil population during the war, and yet the civil population "endured vicissitudes of hope and pain" perhaps unexampled in our Island story.

The incidence of lichen planus among our troops is almost impossible to estimate, for expert diagnosis was rarely obtainable. In one valuable personal experience of this kind, that of MacCormac, who was in charge of the big base hospital for skin diseases, lichen planus seems to have been extremely rare. If the civil population endured the nervous exhaustion of suspense and privation, the army must have had a plentiful experience of shock, and yet no corresponding increase of lichen planus is reported in army or civil population during this period.

At the discussion at Crocker's house in 1900, Ormerod, a distinguished neurologist and physician at the famous Nerve Hospital in Queen Square, made what I have always considered a notable objection to the view of nervous causation, for he pertinently remarked that they saw little of the disease at Queen Square. I will confess that so impressed have I been by some narratives of patients that I am reluctant to relinquish the nervous theory, but I will also confess that my adherence to it has been shaken by the statistical data I have obtained, and I think we must acknowledge that the English explanation, if that is a fair ascription, has had a bad knock under this test of war. It would be a useful inquiry to obtain similar data as to the incidence of alopecia areata. My own impression, which is shared by a number of my co-workers, is that we have had a great increase of this affection in our time of stress, and one of my colleagues has crystallized this impression by a purring change of the name alopecia areata to "alopecia air raider." The air raids from which London suffered so long and so helplessly certainly seemed to be followed by a plentiful crop of cases of alopecia areata. But Dore has put some figures before me, it is true, of a somewhat restricted total of cases, which go to show an actual diminution of cases of alopecia areata during the war, and the cold test of figures must prevail over mere impression, however strong. I have noted the fact that the period of the greatest incidence of the disease, between 35 and 55, includes the period of the climacteric in women. In both sexes this period is often one of unstable nervous

equilibrium; indeed, Ferrier lends his authority for regarding a "climatic" as being common in men.

Many writers have been struck with the observation of the special incidence of the disease in the site of injury and have formulated the theory that the eruption is secondary to and caused by scratching, pruritus preceding the rash, a view chiefly insisted on by Jacquet. There is much clinical evidence for the initiation of the eruption by traumatic influences, perhaps one of the most striking instances being a case quite recently shown us by Sequeira, in which the eruption was at first limited to the fronts of the knees and came out apparently immediately as the result of a fall. It has been recorded in the site of tattoo marks (Abraham), but fourteen years after these were made; in the site of a dog-bite (Walters), as commencing in scratches by a cat (West), on the penis after coitus (Shillitoe), on the scapula after injury (Hurlbutt), on the hands apparently as the result of using strong antiseptics (Morris). I have seen the rash develop after scabies, and the same observation has been made by Hallopeau and Adamson; I have seen it in the site of a gunshot wound; in the groove created by the friction of a truss for hernia, and I have a history of initiation by a midge bite. But I do not think that such instances, striking as they are, are sufficiently frequent to allow of the larger assumption that injury causes the disease, and Brocq quotes a very convincing case rebutting this view; mere scratching was not enough to reproduce the rash, even in a person who had had the disease and had lost the eruption, but in whom itching persisted.

Brooke, Galloway and others have regarded the disease as due to "a toxic influence," and several writers have emphasized the support which histologic investigation gives to the view of a toxic causation, originating, as the disease appears to do, with changes in the blood vessels. Certainly one of the worst cases I ever saw was a patient shown by Williams, whose eruption became frightfully aggravated by a sudden acetonuria due to a concurrent diabetes. But this association is extremely rare, and proves nothing.

Unna, Lassar and Hallopeau among others support a microbic origin of the disease without, as it seems to me, very much evidence for its acceptance. No organism has ever been identified with outbreaks; the extreme rarity of familial cases, to which reference has been made, seems to me to be a very strong argument, as in the case of pityriasis rosea, for rejecting a contagious view. The extraordinary immunity of young children, prone as they are to infection and closely aggregated as they are in schools, is another feature rebutting an infective origin.

Crocker, in the discussion to which repeated reference has been made, seemed to favor a view that would ascribe the disease to sudden



chill. This view has received but little support, and indeed the picture of slow and gradual onset which is far commoner than the history of acute attack, lends little corroboration of such a causation.

Chipman in a recent important paper analyzes a series of eight cases, in all of which there was "focal dental sepsis," and cure is reported on the removal of the offending teeth. The infrequency of the disease in children the author adduces in support of his view, on the assumption that dental sepsis is less frequent in children than in adults. I have sought the opinion of some of my dental colleagues, and the verdict of the chief dental surgeon to the London County Council schools, who sees innumerable children in the course of his routine duties, is contradictory to this assumption. Several other American writers ascribe to the teeth a large share in the causation of lichen planus. My own feeling is that when one has to do with a condition so universally prevalent as defective teeth, at least in London, it is extremely difficult to discriminate between accidental and causal associations. One feels exactly the same difficulty in apportioning the factors of causation of alopecia areata, so large a proportion of which disease has been put down to carious teeth since the work of Jacquet on this association. If this were a *vera causa* one would expect a much larger toll of lichen planus in London clinics, and I have shown that the disease is declining in frequency, as is proved by comparison of Crocker's statistics with those of our own day. Whatever the cause of lichen planus may be, its operation is declining and he would be a bold man who would say that of dental disease. All accounts, and not least those of your own observers, point to an extraordinary extension of dental defects in our troops in France, and, as I have shown, lichen planus was practically nonexistent in MacCormac's experience, which is the largest expert observation of war conditions on which we can draw.

It will no doubt be objected that my criticism is purely destructive, and it is certainly true that none of the theories advanced seem to me to fit in with observed facts, nor have I any alternative better adapted to win credence. It is, however, obviously better to demolish unsound foundations than to build on them, and I think we must start afresh in search of the causation of this baffling affection. Further, I submit that we now have some criteria by which to test new views of causation. The theory which wins in the competition should adequately explain the diminution in general incidence in the past two decades, the sex distribution; the apparent immunity of young children, the absence of infectivity, the facts of chronicity and recurrence of the eruption, and the exaggerated subjective sensations which accompany it.

## THE ASSOCIATIONS OF LICHEN PLANUS

It may be a profitable exercise to review some combinations of other conditions with lichen planus which have been reported from time to time. Taking my own observations first, I have seen lichen planus at least three times in association with psoriasis, and Pringle has made the same observation. I have seen a very acute and extensive lichen planus develop in a syphilitic patient under treatment by iodids, who showed lichen planus and iodism concurrently, and in whom the double diagnosis was confirmed at a sectional meeting. In two other cases also I have had a history of previous syphilis. I have seen what was clinically a typical common wart arise in the middle of a hypertrophic lichen patch, and this observation also has been repeated by Pringle and Crocker. I have seen a very typical annular eruption come out in a man the subject for seven years previously of universal alopecia which had begun, according to the history, as an alopecia areata, and Galloway has recorded cases also occurring with alopecia areata, a point of special interest in view of the ascription of both diseases to nervous causation. I have seen it three times, all in women, associated with Fordyce's disease. I have seen one case with a concomitant pseudo-xanthoma elasticum; one case with pityriasis versicolor, an observation repeated by Abraham; one case with pernicious anemia, an observation repeated by Spiethoff; twice with seborrheic eczema. It has been recorded six times in association with diabetes. Pringle saw the eruption of lichen followed by an eruption of herpes zoster in four cases not treated with arsenic. It has been reported in combination with vitiligo (Ehrmann, Dreyse). No doubt my audience will be able to furnish other associations.

## TREATMENT

Inasmuch as we are entirely ignorant of the causation, treatment is necessarily empirical. I have personally placed most reliance on a combination of arsenic and mercury, known as enesol, given intramuscularly, in 2 c.c. doses every two days, and continued for about six weeks in most cases. It has been very successful in my hands in all stages of the disease, the acute and intensive cases as well as chronic, especially in controlling itching, which usually yields within a week of treatment. I have tried several cases with salvarsan injection, but have come to prefer enesol. I can endorse the findings of my friend Dr. Drew, who states in the letter I read that he had found very little satisfaction from local remedies, but on the whole came to the conclusion that arsenic was the only drug that touched the case he described, that of his wife. In acute cases I have had reason to thank Dr. Bulkley for a personal "tip" he gave me several years ago, namely, to restrict the diet to bread and butter, rice and water for several days at the outset of treatment.

In a very severe case of annular eruption in a nervous and overwrought man I received a lesson in treatment from a quack which I have not forgotten. This patient forsook me after a trial of some three weeks, and with reason, for he had not got on well, and resorted to an irregular practitioner who gave no drugs but dieted him severely, practically restricting the patient to brown bread, fruits and cocoa. Whether *post* or *propter hoc*, in a few weeks the patient had got rid of all eruption.

For localized hypertrophic patches I gave roentgen rays an extensive trial with most disappointing results. I have in later years treated these cases with far more satisfaction by freezing, combining with that operation in the case of large excrescences a preliminary shaving with a razor before applying the snow.

And now, gentlemen, it only remains for me to thank you very sincerely for the courtesy of your attention to what I fear has been a long and dull paper, and to assure you that your invitation and this visit will long remain among the most pleasant memories of my life. May I add in conclusion that I am especially proud to be enrolled in the list of corresponding members of your Association, the proceedings of which I have followed with close attention and admiration for many years.

## LICHEN PLANUS\*

### A CRITICAL ANALYSIS OF SIXTY-FOUR CASES

CHARLES J. WHITE, M.D.

BOSTON

In continuing the discussion on lichen planus so clearly and ably opened by Dr. Graham Little it has seemed to me wise not to rewrite what has already been written by other men, but rather to study and analyze the disease as it has presented itself to me in my own private patients, who, in the last nine years, have numbered sixty-four.

The relatively small number at once points to the fact that the disease, in New England at least, is far from a common one. Another striking point is that there have been thirty-eight women and only twenty-six men, whereas most books tell us that there is no marked preponderance of either sex in the incidence of the disease, and Brocq claims a majority of men. As to nationality, there have been forty-four cases among the old American stock against six each among German-, Scotch- and French-Americans, one patient from Armenia and one from Ecuador. This great majority of old Americans suffering from lichen planus does not in any way represent the true national proportions of my practice and lends decided significance to the type of persons prone to the disease.

TABLE 1.—AGE OF INCIDENCE

	Male	Female
2nd decade .....	0	2
3rd decade .....	3	4
4th decade .....	7	10
5th decade .....	7	8
6th decade .....	3	7
7th decade .....	5	4
8th decade .....	1	2
9th decade .....	0	1

As will be seen from the foregoing table, the disease is most commonly observed between the ages of 30 and 60, the extremes being 14 and 85, both patients being women.

I have tabulated the age of the disease when first observed, because such a table gives an approximate idea of the time when a patient feels compelled to seek a specialist and also because it demonstrates the longevity of the process in certain unfortunates. Such obstinacy, as

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revealed in one instance where the disease had existed for sixteen years, is hardly to be suspected from a perusal of the usual text book descriptions of lichen planus.

TABLE 2.—AGE OF DISEASE AT FIRST VISIT

	Male	Female
3 weeks .....	1	1
4 weeks .....	1	1
5 weeks .....	1	1
6 weeks .....	0	2
2 months .....	1	9
3 months .....	2	9
4 months .....	2	0
5 months .....	1	2
6 months .....	2	4
7 months .....	1	0
8 months .....	0	1
9 months .....	3	1
1 year .....	2	0
2 years .....	0	1
4 years .....	1	0
5 years .....	0	1
6 years .....	1	0
16 years .....	1	0

## ETIOLOGY

TABLE 3.—OCCUPATION OF PATIENTS

Unoccupied .....	28
Teacher .....	4
Manager .....	4
Salesman .....	4
Clerk .....	3
Overseer .....	2
School teacher .....	2
Cook .....	2
Trained nurse .....	1
Architect .....	1
President .....	1
Florist .....	1
Cigarmaker .....	1
Watchmaker .....	1
Painter .....	1
Cloak model .....	1
Caterer .....	1
Lawyer .....	1
Scientist .....	1
Traveling .....	1
Conscript soldier .....	1
Importer .....	1
Designer .....	1

A study of the occupations of the sufferers from lichen planus discloses the fundamental fact that the disease attacks the leisure class principally and secondly those who work with their brains. This evidence is further substantiated by hospital statistics where we find that our clientele, largely recruited from manual workers, is relatively less often affected by lichen planus. Thus in the corresponding period (nine years) at the Massachusetts General Hospital, among patients

who have outnumbered my own approximately four times, we find only 146 instances of the disease, that is, a little over twice as many; and even this number, in my opinion, does not perhaps represent the true incidence of the hospital cases, for when we come to study the statistics we find that for the five years from 1910-1914 there were only fifty-seven cases, while in the four years from 1915-1918 there were eighty-nine. This greatly increased average may be explained, I believe, by the war, its conscription, its labor troubles, its high prices, its hardships of living, etc.

Let us next determine whether or not there is any possible secondary and more immediate contributory factor in the etiology of the disease. Such an additional element does seem to be present and lies in the previous mental status of the affected persons. Careful questioning of all my patients discloses the fact that out of the whole number whose records are complete, only nine failed to acknowledge some degree of mental disquietude. The following quotations tell their own story:

TABLE 4.—CONTRIBUTORY FACTORS TO DISEASE

1.	"Overwork" .....	9 patients
2.	"Exceedingly nervous" .....	8 patients
3.	"Worry" .....	5 patients
4.	"Nervous and easily tired" .....	4 patients
5.	"Nervous" .....	4 patients
ONE CASE EACH		
6.	"Hysterical"	
7.	"Graves' disease"	
8.	"House burned down, a trying experience"	
9.	"Working at high pressure, no vacation for seven years"	
10.	"Working under great stress"	
11.	"Divorce trial and death in family"	
12.	"Operation, child had pneumonia, father in mental collapse"	
13.	"Social Workers"	
14.	"Terrible stress of sorrow"	
15.	"Twenty-one operations on thumb"	
16.	"Worried over labor question"	
17.	"Used to work out of doors, now closely confined"	
18.	"Unstrung"	
19.	"Serious illness, smash in business, new baby"	
20.	"Malignant tonsils removed, malaria"	
21.	"Hard responsibility on husband's part"	
22.	"Babies twenty months apart"	
23.	"Under great strain for six months"	
24.	"Nervous and overworked, a chill"	
25.	"Twenty-nine years a teacher, an old father and mother to care for"	
26.	"Things went wrong, lost appetite and thirty pounds"	
27.	"Husband very ill"	
28.	"Long life of boarders and servants to contend with; now two grandchildren to care for, menopause"	
29.	"Neuritis, sister has had long illness"	
30.	"Six children, does all her own work, husband incompetent; lots of illness in family; tapeworm"	
31.	"Death of boss and of father with all their affairs to manage"	
32.	"Bad sleeper; seldom more than six hours"	

33. "Bad sleeper; seldom more than five hours since the age of 12; very large business cares"
34. "Trouble with servants, overwork with Red Cross"
35. "Lots of trouble recently"
36. "Business is poor, son drafted"
37. "Son in France; daughter not heard from since going overseas; weeps much; fasts two days a week"
38. "Wife just dead, lots of children"
39. "Nine months in the service; worried much; homesick"
40. "Formerly an ardent golfer; now war work as head of a Washington bureau night and day for a year and living on cigarets"
41. "Severe business and family stress for four years"

Furthermore, one individual stated that the eruption followed two weeks after a lacerated wound of the penis; and another noted that the lesions appeared after taking the baths at Mt. Clemens for the treatment of rheumatism.

Surely after appreciating these "tales of woe" confessed by sixty-eight persons and contrasting with this great majority the negative mental histories of the remaining nine, one cannot claim mere coincidence. Unquestionably, therefore, we must conclude after due consideration of these two tables of occupation and of past history that lichen planus is a disease of educated men and women whose lot has been hard.

#### THE ERUPTION. FIRST PARTS AFFECTED

The books tell us that the flexor surface of the wrists is a favorite site for the initial lesions of the disease, and makes practically no mention of any other possibilities. A glance at the following table will show the fallacy of this now classic statement. "Classic" seems a proper term to use, for one finds this belief expressed in practically all of our books—in fact this is but one illustration of the many plagiarisms which are handed down from one author to another.

TABLE 5.—FIRST PARTS AFFECTED

	No. Cases
Flexor surface of wrists.....	7
Legs .....	6
Dorsal surface of forearms.....	3
Feet .....	2
Waist .....	2
Backs of hands.....	2
Abdomen .....	2
Inner surface of knees.....	1
Forehead .....	1
Cheek .....	1
Groin .....	1
Pubes .....	1
Penis .....	1
Tongue .....	1
Back .....	1
Thumb .....	1

Thus one sees that the anterior surface of the wrists is a favorite seat for the initial lesions, but only in 21 per cent. of this particular series of cases.

## DISTRIBUTION OF SUBSEQUENT LESIONS

To appreciate where we may find the later eruptions of lichen planus let us consider the next table.

TABLE 6.—DISTRIBUTION OF LESIONS

	No. Cases
Generalized .....	25
Legs .....	16
Buccal surface of cheeks.....	15
Thighs .....	13
Anterior surface of wrists.....	12
Abdomen .....	12
Arms .....	10
Back .....	9
Dorsal surface of hands.....	8
Shaft of penis.....	4
Feet .....	3
Face .....	3
Inner surface of knees.....	3
Between and under breasts.....	3
Around umbilicus .....	3
Neck .....	3
Waist .....	2
Lumbosacral region .....	2
Scrotum .....	2
Chest .....	2
Palms .....	2
Tongue .....	2
Hips .....	1
Near axillæ .....	1
Elbows .....	1
Bend of knees.....	1
Glans penis .....	1
Under the ears.....	1
Nates .....	1
Groins .....	1

The most superficial glance at this table tells us that there are practically no parts of the body exempt from the possible appearance of the lesions save possibly the scalp, the axillæ, the perineum and the soles, and of these present exceptions I am quite sure that I have seen the disease in the arm pits, and Brocq includes the scalp in his list of affected sites.

## TYPE OF THE EXTERNAL LESIONS

The size, shape and color of the papule of lichen planus constitute one of the best known landmarks of dermatology. When we are confronted with the straight-sided, angular, full red and subsequently violaceous and possibly purple papule with its glistening, flat, sometimes gray-lined, frequently umbilicated top, we cannot escape the fact that we are dealing with lichen planus or some of its correlations. Such is the usual case and it would seem as though the disease played truer to type than almost any other dermatosis. But this is not the whole story and the subjoined table very greatly enlarges our objective conception of the process.



TABLE 7.—TYPE OF LESION

	No. Cases
Annular lesions .....	9
Linear lesions .....	5
Hypertrophic lesions .....	4
Confluent lesions .....	4
Large plaques .....	4
Yellow-white papules .....	2
Dull white papules.....	1
Very white papules.....	1
Red-yellow papules .....	1
White rings .....	1
Blisters, according to the patient's story.....	1
Subsequent desquamation worthy of dermatitis exfoliativa and accompanied by follicular keratoses very reminis- cent of pityriasis rubra pilaris.....	1

It is evident, therefore, that even this disease, usually so constant in type, can lay traps for the unwary. Eventually, all of these various lesions may flatten down into temporary chocolate-colored nodules.

## HIDDEN LESIONS

The characteristics of the lesions of lichen planus on the mucous surfaces need no elucidation here. We must only be on our guard lest we confuse them with leukoplakia, the mucous plaques of syphilis, and Fordyce's disease. The question of leukoplakia, however, even for the expert, is sometimes a delicate one. I recall particularly one patient, a Russian Jew, referred to me by Dr. C. Morton Smith. This man presented along the interdental line of the cheeks and over the whole anterior half of the tongue, dorsally and laterally, single and coalescent, brilliant, white papules and large plaques of a similar nature, due to the fusion of the previous units. He had received from a dermatologist two injections of arsphenamin despite several negative Wassermann tests. But this condition was lichen planus and not leukoplakia.

## SUBJECTIVE SYMPTOMS

Next to the peculiar physical characteristics of the lichen papule, itching appears to be the most constant symptom of the disease. This feature is almost never absent, but its degree varies. Let us tabulate these variations:

TABLE 8.—DEGREE OF ITCHING

	No. Cases
Mild itching .....	11
Severe itching .....	19
"Thought of suicide".....	1
"Something wicked" .....	1
"Awful" .....	1
"Has to be dulled by ether; desperate; all in; practically no sleep" .....	1
"Uncontrollable if lesions are touched".....	1

It is clearly evident then, that the great problem in the treatment of lichen planus is the mitigation of the itching — the severity of which is plainly emphasized in the above table.

## PATHOLOGIC ANATOMY

In my various examinations of the papule of lichen planus, the microscopic picture has presented the features well known to us all. The initial lesion consists of a cellular infiltration about the upper horizontal layer of vessels. Almost immediately the same phenomenon occurs about the vascular network of the papillae. Next we find a rapid acanthosis, the individual cells of which may sooner or later in places undergo a colloid-like degeneration. Then follows a hypertrophy of the granular layer, and finally hyperkeratosis ensues. As time goes on, parakeratosis may develop. During these rete transformations, the cellular invasion of the corium spreads a trifle downward and upward until the pars papillaris may be blocked by an almost solid compact mass of cells, mononuclear leukocytes principally. To my mind an almost pathognomonic feature of this cellular extravasation is the strangely straight horizontal inferior border—a picture practically unique in dermatologic microscopic anatomy.

## TREATMENT

The various internal and external medicaments prescribed to these patients may best be summarized in the following table:

TABLE 9.—DRUGS USED IN TREATMENT OF LICHEN PLANUS AND  
NUMBER OF PATIENTS TREATED

	No. Cases
Pil. Hydrarg. ioidid. virid. gr. $\frac{1}{4}$ .....	39
Pil. Hydrarg. chlorid. corrosiv. gr. 1/16.....	11
Fowler's solution .....	17
Injections énésol .....	4
Mixt. nux vomica, gentian.....	6
Pil. Blaud .....	3
Sol. potass. ioidid.....	3
Sol. potass. bromid.....	1
Calcium lactate .....	1
Donovan's solution .....	1
Chlorate potash after meals, dilute nitric acid before.....	2
Pil. arsenic. manganese.....	1
Roentgen rays .....	4
Starch baths .....	1
Wash ol. cadin, sap. virid., alcohol.....	49
Ung. ol. cadin, sulph., acid. salicyl.....	41
Ung. menthol .....	12
Ung. white precipitate.....	10
Ung. ichthyol .....	8
Emplast. saponat., salicyl. ol. Cadin.....	7
Glycérolé tartrique of Vidal.....	5
Liq. carbonis detergens.....	4
Boeck's wash .....	3
Ung. crude coal tar.....	2
Ung. chrysarobin .....	2
Ung. neorobin .....	1
Ung. pyrogallic .....	1

TABLE 10.—RESULTS OF TREATMENT

	No. Cases
Improvement .....	8
Rapid improvement .....	3
Recurrence .....	7
Two recurrences .....	1
Recurrence after fatigue.....	1
Recurrence after influenza.....	1
Worse under treatment.....	1
Worse and urticarial in zero weather.....	1
Worse after exposure to sun and sea.....	1

The fate of my other patients remains obscure, for, owing to the consultant nature of my practice, twenty persons were seen but once, and eighteen but twice. Thus, known success occurred in only eleven instances.

It is an aphorism in clinical medicine that the greater the number of drugs recommended in the treatment of a disease, the less satisfactory are any of them therapeutically. Thus the long list of drugs used well illustrates my evident inability to master the cure of lichen planus. In fact, I must acknowledge my pessimism. In truth, I must freely confess that in my own opinion we have no internal remedy worthy of the name. Menthol in ointment form will surely temporarily relieve the pruritus. Detergents will tend to reduce the hyperkeratosis. Stimulants will possibly decrease the infiltration. More than this I cannot say. Roentgen rays, in my experience, have proved a broken reed to lean on.

#### CONCLUSIONS

Lichen planus is a subacute, at times an acute disease. It affects largely the educated classes and especially those whose immediate past has been troubled; rarely it follows an injury. It seems to occur more often in women than in men. It appears largely in the fourth and fifth decades of life. It varies greatly in duration—a few cases come and go in a few weeks; many last months; some may persist even for sixteen years. The initial lesions may favor the flexor surface of the wrists, but they may and do appear on almost any part of the body, and even on the mucous membranes where the characteristic violet coloration becomes silvery white. The eventual distribution of the eruption may be universal. The typical objective lesion is an almost pathognomonic papule, but many variations occur, and occur commonly. The disease is par excellence a pruritic one, and the entailed suffering is at times almost unbearable. Pathologically, we note an initial change in the corium and a subsequent epidermic alteration. The most characteristic pathologic feature is the almost geometrically straight, inferior border of the cellular infiltration. The infiltrated

macroscopic lesions for the most part terminate in chocolate-colored macules. Treatment is palliative. Cure seems to depend largely on natural evolution.

### DISCUSSION

ON PAPERS BY DRS. LITTLE AND WHITE

DR. ZEISLER thought there was no need to go into the morphology of lichen planus for as comprehensive a review had been given as would be found in any textbook. One of the pictures which Dr. Little showed resembled very much a case which the speaker showed several years ago under the name of prurigo nodularis, first described by Dr. Hyde.

He wished only to say a few words about the etiology and treatment. He was very much impressed by the remarks of Dr. White, because he had found them to be true. Some seventeen years ago at the New Orleans meeting of the American Medical Association he had presented a brief statistical report of his own experience, which he had since corroborated. In his experience with lichen planus it was a disease of people who lead a strenuous life, who were over-worked or over-worried. Of course this would not apply to children and he thought this was the reason why the disease was so rare in children. In women who were mentally disturbed or grieved and over-worked during the war, and in men who were occupied in other capacities, the disease was found. From this very indefinite etiologic aspect important conclusions in regard to treatment could be drawn.

In regard to treatment, the speaker could not share the pessimism of Dr. White. He felt that it was possible to promise every patient a cure within a reasonable time, within six to ten weeks even in the worst cases. But he did not rely on internal or external administration of drugs, but insisted on a proper restriction of work and general measures. He insisted on as complete a rest as possible. With that he combined a form of baths, which no one had suggested in this discussion, but which some French writer had recommended. These were not taken in the morning or at night, but, if possible, in the middle of the forenoon, the patients reclining in a tub bath for from fifteen to twenty minutes, followed by a cooling spray over the spinal region and rest for at least half an hour—an hour, if possible.

He also used a modified diet. First, there was a reduction in the meat and the diet generally. This might explain the decrease in lichen during the war. He had given up the arsenic treatment, although he knew that it was possible to make a lichen disappear with that treatment, but the irritating effects were so pronounced that he believed patients were better without the arsenic. He had used small doses of mercury with good results. In the local treatment there were certain cases in which Unna's ointment seemed to be indicated, but he did not bother much with local treatment, except for the roentgen ray which he had found to have an almost marvelous effect in lichen planus.

DR. HARTZELL referred to some of the points regarding symptoms of the disease, drawing on his own experience. As to the umbilication referred to by Dr. Little who did not find it very common, the speaker had found it present to some degree in a considerable proportion of cases.

The speaker had been somewhat surprised to hear the statement that itching was a very prominent symptom in all cases. Certainly this had not been his experience for he had had many cases in which itching was so trivial as to be negligible, although it was true that in the widely distributed symptoms itching was very marked.

As to the causation of the disease, when one considered the great number who receive all kinds of shock, undergo all kinds of emotional disturbances, and worry, and who never exhibit so much as one papule of lichen planus, surely nothing more than a contributory influence could be attributed



to any of these factors. Surely these were not direct causes of the disease; there was something behind them and they simply acted in a person already predisposed to these attacks. He did not for one moment believe that chill or shock or worry could directly produce it. He had often felt that in discussing this disease they had put the cart before the horse. Where there was marked itching and insomnia it would be a remarkable thing if the patient's nervous system was not upset.

As to the value of arsenic and mercury, he was much more optimistic than some of the speakers. He firmly believed that these drugs were of great value. Iodid of mercury was a failure in some cases in which arsenic brought relief. While he believed that both of these drugs had a very marked therapeutic effect, he knew of no way in which it could be decided beforehand which of them would be the more useful.

The speaker had been surprised that no one had referred to spinal puncture. Some cases of relief from this procedure had been reported, but no cures. As was so often the case, there seemed to be a fashion in these things, and just at present it was the fashion to thrust a needle into a man's spinal canal for most things, and always with marked benefit (?).

As to local treatment, he believed it exerted little or no influence over most cases, but in some cases with thick scaly patches he had obtained very marked effect from chrysarobin.

DR. PUSEY wished to express his appreciation of Dr. Little's coming to the Association. He thought it was great evidence of a feeling of friendliness and of scientific companionship that Dr. Little, under the difficult conditions of travel at the present time, had taken his long trip for so short a visit to the American Dermatological Association. He was equally appreciative of the quality of Dr. Little's paper. He had listened to many similar papers, but he could recall no instance where the opening paper had covered its ground more adequately or more satisfactorily than Dr. Little's had done. It came up fully to the best standards of English clinical medicine which we admired so much. The paper was exceedingly interesting to him, partly perhaps because it met his views as to a reasonable and practical exposition of the subject.

He was surprised to hear Dr. White put so much emphasis on the discomfort of itching in lichen planus, for in his experience, while lichen planus itched, it was not one of the severe itching dermatoses like acute papular eczema or dermatitis herpetiformis, for example. As to the etiology, he had been much interested in the views which some had expressed on this subject. In his early dermatological life he had fallen in with the established belief in the neurotic origin of lichen planus. His faith had waned, as it had about the neurotic origin of many other dermatoses concerning which he was constrained to believe we had clothed our ignorance of causes by invoking some intangible nervous influence. He was particularly interested, therefore, to find that lichen planus was appearing less frequently than usual in England at the present time, when, if ever, diseases due to nervous tension should be at their maximum. He had been a little shocked by the opinions of some of the speakers that lichen planus was not benefited by treatment. He was well aware of the fact that experience is fallacious and judgment difficult, and perhaps he was mistaken in thinking that he had benefited his cases of lichen planus by treatment, but, if he had not, he had been misled. He thought that various stimulating applications, particularly phenol and mercury salts, were useful in getting rid of the condition. He was not so convinced of the value of internal remedies, but he thought he saw benefit from the use of small doses of mercury internally, and he was very much inclined to believe that arsenic internally was distinctly of use. Certainly it was his experience that many of these patients recovered in from a few weeks to a few months.

DR. TRIMBLE said that he had listened to Dr. Little's paper with much interest and wished to express his appreciation for the thorough way in which the subject had been handled; in fact, the ground had been covered so thor-

oughly that very little could be added. He was in accord with the opinion previously expressed regarding umbilication and the striae of Wickham; he had of course noticed umbilication, on occasions, but thought it a negligible factor. The same might be said of the striae of Wickham; cases were seen in which they were present, though they were by no means a constant factor. There were two forms of lichen planus which had interested him for a number of years; one was the bullous variety and the other the hypertrophic type. He had thought, in earlier days, that there was no such thing as bullous lichen planus; the bullae occurring, rarely, along with the other objective manifestations of the disease were considered by him to be secondary. Years of further experience had caused him to change his mind; and he had observed a number of cases where the bullae were undoubtedly the symptoms of the disease and not due to any secondary factor. The interesting point in regard to these was, Why was the bullous variety so extremely rare? The exudate was quite superficial, being confined practically to the papillary layer and the inflammation was rather acute in many cases. For these reasons he could not understand why the edema was not sufficient to raise the epidermis into a bleb more frequently.

The other form to which he wished to refer was lichen planus hypertrophicus; this hypertrophic variety was at times observed alone without any outlying smaller lesions. Such cases sometimes occurred in intelligent patients, who stated that there never was any previous outbreak, either localized or generalized. That the hypertrophic lesions occurred with the generalized outbreak was not hard to understand, though, why this especial variety should come on idiopathically unassociated with the ordinary type was somewhat of a puzzle.

The pathology did not closely resemble the ordinary variety; it was notably hard to cure, and whether we were right in calling it hypertrophic lichen planus, when it occurred alone was a question.

Regarding treatment, the speaker was rather surprised at the diversity of opinion. He thought it would be the consensus that arsenic or mercury would cure any case. He was also surprised at the long durations mentioned by Dr. Little and the different experiences by others. In his experience, a long duration would be six months, and he could not remember a case that lasted for a year. Like Dr. Zeisler, he could not state exactly the time necessary for a cure, but could promise a rather ready relief, and within three or four months, a cure.

He usually began the treatment with mercury, generally giving the bichlorid, and thought that most men did not give the mercury in sufficiently large doses. His routine was to begin with one-twentieth of a grain and rather rapidly increase the dose until the patient received one-twelfth or one-tenth three times a day. Under these conditions the case would heal in a reasonable time. He had seen this exemplified in the clinic by having one of the assistants simply renew the tablets from time to time, keeping to the same strength, and having very little benefit accrue. When the dose was increased the beneficial effect would soon be noticed.

He considered that lichen planus was one of the classics of dermatology; it was practically the same in every case, with differences in location and degree, perhaps, but practically the same whether mild or severe. There was nothing which produced such classic symptoms, and it seemed to him that the disease certainly must be an infection of some kind. With this idea in view he had wondered whether or not it would fix its own complement. No causative microbe having been discovered, it was naturally impossible to get a bacteriologic antigen; he, therefore, determined to get a tissue antigen; and for quite a long time, did biopsies on all cases of lichen planus; placing these pieces of tissue in 20 c.c. of absolute alcohol.

This method was rather slow, and almost a year was consumed in making the antigen of sufficient strength to be of any consequence. After this was

done, it was used in eight or ten cases with negative results. The antigen was inhibitory in practically every case, using about 1:30 dilution. In this work he was very particular about not taking any tissue from a case of hypertrophic lichen planus, unless it was a case accompanied by samples of the ordinary type. A Wassermann test was made in every case to make sure that the patient was not suffering from a latent syphilis. He was still working with it, though it would be necessary to get a new antigen, and later, perhaps, he might have more negative results to report.

DR. POLLITZER said he had nothing to add to the very complete presentation of the morphology presented by the distinguished guest, Dr. Little.

With reference to the striae, they were visible in relatively few cases when examined in their natural state, but if the papules were moistened with anilin oil, which had the advantage of rendering the horny layer transparent, the striae would be seen in a large majority of cases.

In his experience arsenic was the drug par excellence to use, but not as ordinarily used in Fowler's solution. It should be used in daily injection, in ascending doses, and very large doses were often required. He had repeatedly seen most astonishing results in lichen planus by this method and thought it could not be a mere coincidence. He would not say that results had been obtained in every case, but in a very large percentage. He also used sodium arsenate with phenol, 2 per cent. of each, and ran the dose up to 1 or 2 c.c. or more daily. There was no pain at all by this method and no local effect whatever.

The particular thing which interested him most in the discussion was the part which referred to the etiology. He thought the general tendency so far as the discussion was concerned had seemed to favor a neurotic theory of lichen planus. Certainly that was the prevailing view of the medical profession. He had begun his medical career as a physiologist and when he heard of neurotic effects he wanted to know what nerve was affected. If any one could explain how an affection of the nervous system could present such a picture as that of the distribution of lichen planus he should like to hear it. When one heard of emotional and physical shock preceding the outbreak, that could be found in almost everything. No doubt such a history could be obtained in a considerable percentage of our cases of scabies. The fact was that the cause of lichen planus was not known and there were no data on which to base an opinion; no definite, scientific data, and we were accordingly groping in the dark and talking about it in exactly the same way that people a hundred years ago talked about scabies and leprosy. He wished everyone would go back to the literature of a hundred years ago and see the sort of stuff that was written then about these infectious diseases—just the sort that was being talked today about lichen planus. In view of the fact that there was nothing known, any one might have an opinion, and he wished to record his conviction based on the course of the disease, the location of the lesions, their distribution and their granulomatous structure, that lichen planus was a microbic disease. He felt almost as sure about it—this was merely an expression of his faith—as that leprosy was produced by an organism, and he hoped to live long enough to see the organism of lichen planus found.

DR. LIEBERTHAL complimented Dr. Little on his address. In twenty-six years of dermatologic experience he had seen a good many cases of lichen planus, but never one which had not yielded to arsenic, except those of the hypertrophic types. But it was to be used in a methodical manner. He had employed mostly arsenious acid in the form of the Asiatic pill. The patients tolerated the arsenic very well, and if gastric disturbances occurred, hydrochloric acid gave relief. In the hypertrophic forms the roentgen rays proved of great benefit, which in the other cases the ultraviolet rays were of value. Itching did not accompany all cases. It was very intensive in those developing suddenly in a generalized eruption, and no local application gave prompt relief. In these he had used antipyrin internally, as recommended by Pringle



a few years ago. In regard to the etiology, he was inclined to share the view of Dr. Pollitzer, considering the cases of the familial variety. With his own four cases he had found about forty recorded in literature, where two or more members of the same families developed the disease in short intervals. This could not be accidental.

DR. MITCHELL stated that during a period of approximately seven months at Camp Funston he had examined the troops for skin disease prior to discharge. These troops consisted of about five divisions in all. One was a drafted division which had not been outside the camp, but all the others had been overseas. This experience also included a great many wounded men who had been through the hospitals. All of the four divisions were on the West Front, and two of the divisions saw some of the hardest of the fighting and included a great many so-called "shell shock" cases. In all that experience he had not seen a single case of lichen planus. One of the divisions was a national guard division and the average quality of these men was noticeably higher than that of the drafted troops. Therefore, if there was anything in the idea that the disease occurred in men of higher stations in life one might expect to find some examples of it in that particular division. One division was made up of negro troops, but he did not see the disease in that division although it had been engaged in some of the hardest fighting. It might be argued that these men were under strict regimen, but they were well fed. They did have enormous appetites, but they were not overly fed. After going into service he had realized why it was necessary to conserve food. He had personally increased his food intake to about three times as much as he consumed in private life. He had examined a great many officers who went through the fighting but no lichen planus had occurred in these officers. It might be argued that the cases of lichen planus were taken out at debarkation points were it not for, the fact that all kinds of skin diseases came through, some of which were very obvious things. It might be argued, as Dr. Culver brought out, that the intestinal tract was more carefully looked after in the army. Men ate a great deal and took a great deal of exercise, but men in the hospital did not take any exercise, and many of them had been in the hospital for several months. If nervous shock or depression were etiologic factors in lichen planus, the disease certainly should be found among these men. A common saying in camp was that the morale of these hospitalized men was about as high as a snake's belly. When coming up for discharge they all wanted to get out; no man could be induced to go back to a military hospital, but had to be forced back. All the men were in that state of depression which should make for lichen planus if it was to be explained on the ground of a nervous disease. Nevertheless, not a single case was discovered.

DR. GILCHRIST agreed with the members of the Association in their great appreciation of Dr. Little's paper, and congratulated him on his masterly review of the subject. Dr. Little had covered the ground so accurately and yet so thoroughly that there was little left to discuss. In his experience many patients gave a previous history of some intense worry, but many did not.

With reference to the negro, he had seen very few cases in that race; and probably only half a dozen cases had been recorded in the last twenty years in Johns Hopkins Dispensary. When it was present it had an unusual color, a slate gray color, but with the typical shaped and sized papules and general appearance. Sometimes the lesions were almost unnoticeable and would almost have been passed over had not the patient called attention to the eruption because it itched.

With regard to treatment with the roentgen rays: In 1902 when he was experimenting with the application of roentgen rays on many skin diseases, he was astonished to find that it relieved the itching of lichen planus very markedly. In the chronic patches on the legs he had been applying pure carbolic acid as well as the application of roentgen rays and with very good results. The carbolic acid reduced the thickening and relieved the itching.



Dr. White had stated that he saw patients two or three times and after that not at all, but Dr. Gilchrist could not recall many cases he had followed until no more lesions could be seen. Some patients with chronic lichen planus, and especially if they did not get rapid relief, got tired of the treatment and did not stay until the lesions disappeared.

He recalled a case of a woman who had the typical eruption of lichen planus on both forearms and consulted him just once, about three years ago. He never saw the patient again until two weeks ago when she had another exactly similar attack. She was asked about the first attack and said she had followed instructions and the eruption disappeared in about three or four weeks. She had lost the prescription and that was the reason she had come again about the second attack.

DR. LITTLE said that he thought he owed the Association an explanation. When he received the invitation to come to the meeting he understood that there was to be a three day debate on lichen planus and his paper was written with that in view. Subsequently, when it was too late to change the paper, he discovered the fact that the discussion was to occupy only one session of the three day meeting.

As to the comments on his paper, he realized that the time had been too short for any one to give much personal experience. He regretted this because he had come to learn rather than to give ideas of his own.

It appeared to him that lichen planus was much more common here than in England. One of the striking things in his country was that the disease was progressively diminishing, and in view of the experience of the population during the past four years, the neurotic etiology of lichen planus had received a severe setback.

DR. POLLITZER thought the Association could not allow Dr. Little to go away with the idea that his paper had been anything but a great pleasure to the members. He regretted that it did not occupy three hours rather than one.

In regard to the occurrence of lichen planus, the Association had been gathering statistics annually for thirty odd years and the incidence of the disease had remained fairly constantly at from about three-fourths of 1 per cent. to 1 per cent.

# A HITHERTO UNDESCRIBED GENERALIZED PIGMENTATION OF THE SKIN APPEARING IN INFANCY IN BROTHER AND SISTER \*

GROVER W. WENDE, M.D., AND HERBERT H. BAUCKUS, M.D.  
BUFFALO

## INTRODUCTION

Early in the winter of 1918 there came under observation from the same family two children with generalized pigmentation of unusual character and rare type. The anamnesis and examination developed the following facts:

## REPORT OF CASES

*Family History.*—The father and mother were born in Russia; they came to the United States in 1907. The father is 35 years of age; he has a fair complexion, light brown hair and hazel eyes; at present he is in an insane asylum suffering from dementia praecox without apparent assignable cause and with the Wassermann test negative for both blood and spinal fluid. The mother is 32 years of age; she also is of fair complexion; fair-haired and hazel-eyed; she always has been healthy. She has four living children from five pregnancies, the second of which ended in early miscarriage. The oldest child is a normal and healthy boy of 15 years. The second child is a girl of 9 years and is Case 1 of this report. The third child died, cause unknown, at the age of 3 months. The fourth child is a boy of 1 year and is Case 2 of this report. In the immediate and remote ancestry no history was obtainable of tuberculosis, syphilis, atavism, skin disease, abnormally dark skin or other forms of pigmentation.

*CASE 1.—Personal History.*—A. G., a girl, 9 years old, was born in Buffalo. From birth until 1 year of age she was fair-skinned and light-haired. The mother took no drugs during this pregnancy; the gestation and labor were normal. The child was breast-fed for one year; she was healthy up to the age of 8 months, at which time there occurred on the right side of the neck a slowly developing swelling which finally broke down, discharged pus and slowly disappeared. Beginning at the age of 1 year, as the abscess disappeared, pigment was gradually deposited first on the scalp and face and then on the trunk until the process involved the entire body. Finally the skin, especially of the face and trunk, became almost black. The child

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remained backward in development, thin and weak for several years. She did not walk until the age of 5, when she began to gain in weight and to show marked physical improvement. Also at this time the pigment began to disappear slowly and the skin to show zone-like areas of yellow color shading into the dark. At the age of 7, owing to the disappearance of the pigment, there began to develop pin-head white spots on different portions of her body, especially over the clavicles and in the interscapular and femoral regions; at places, well shown in the groins in the photographs, the white spots coalesced and formed small areas free from pigmentation and quite normal in appearance. The patient has had scarlet fever and mumps.

*Condition on Examination, Dec. 1, 1918.*—There are no pigmented lesions or scars in the mouth. The glands are not noticeably enlarged in the anterior triangles of the neck. There is no evidence of urticaria or dermatographism. General physical examination shows nothing abnormal. The reflexes are normal although she shows considerable nervous instability. She has no jaundice. The eyes are hazel in color, the sclerae white. The Wassermann blood serum test is negative. The urine is normal. Blood examination shows: Red blood cells, 4,750,000; white blood cells, 9,500; small lymphocytes, 15 per cent.; large lymphocytes, 21 per cent.; polynuclears, 61 per cent.; eosinophils, 3 per cent.; hemoglobin, 80 per cent.; no abnormal red cells.

The entire integument varies in color from that characteristic of a blond through tints of yellow bronze to negro-black. The abnormal tints form zonelike areas in different parts of the body. The scalp is of a uniform amber shade; the hair presents irregularly distributed shades of brown ranging from very light to very dark. The face shows a distinct bronze color. The neck presents a zone of brown-black color, equal in depth to that of the abdomen. The darkest brown-colored area covers the abdomen and the sides of the trunk from the axillae to the thighs. The chest above the nipples presents a considerably lighter zone in which appear white areas, evidently due to the coalescence of spots in which the pigmentation has completely disappeared. The chest and abdomen are studded with small nonpigmented spots varying in size from a millet seed to a lentil. On the anterior surface of both thighs at the groins and extending up on the abdomen are considerable-sized areas of macules of normal skin; some of these areas upon close inspection are seen to be made up of single minute macules, while others are the result of the coalescence of several macules. The anterior aspects of the thighs and legs to the ankles show as zones of yellow-brown color gradually shading into a darker tint at the knees. Near the ankles are seen many very dark macules. Beginning at the ankles above the malleoli and extending to the tips of the toes are zones of color almost as dark as the abdomen. The anterior



Fig. 1 (Case 1).—Aged 10 years. Duration of pigmentation nine years. Showing zone-like arrangement of discoloration and areas of normal skin.



surfaces of the arms show a uniform shade between that of the abdomen and legs. The color of both the palms and the soles is quite a normal pinkish blond.

On the back from the hair line to the buttocks the same very dark color prevails as on the abdomen; over the buttocks it gradually fades into an almost normal color. The same occurrence of macules of normal skin, but not quite so profuse as on the anterior surfaces, is seen over the dorsal and interscapular regions. The backs of the thighs and legs to the ankles are of a lighter tint than that of the corresponding anterior surfaces. Punctate spots of dark color also show upon the backs of the legs. The heels are darker in tint than the dorsum of the feet.

*Histological Examination.*—On Jan. 20, 1919, biopsy was done and two bits of skin from the back just below the left scapula were secured for microscopic study. As the dermal punch entered the corium a remarkable amount of resistance was encountered.

In the sections of the tissue the stratum corneum is thinner than normal, occasionally reduced to two or three layers of cells; there is no parakeratosis; the stratum lucidum is generally absent, but occasionally is faintly indicated; the stratum granulosum is indistinct and only occasionally normal—the granules and nuclei of the cells appear normal; the stratum mucosum is in the main well developed.

The rete cells are unusually distinct and sharply defined. The palisade cells frequently seem to be more or less disorganized, particularly at the apices of the papillae. The basal cells are not typical in shape and many are completely filled with pigmented granules; they appear unusually large and irregular in outline; in places the cell protoplasm is shrunk away from the nucleus; however, the nucleoli and the prickles are still characteristic; they show marked deposit of pigment which varies in color from a golden brown to a black granite; mitoses are not seen. The malpighian layer contains a great many large abnormal pigmented cells. These migratory cells are three or four times the size of leukocytes; the majority assume an oval or elongated shape, as though to facilitate their passage between the rete cells.

Round cell infiltration of the epidermis is nowhere present. The rete pegs are not normal in shape; occasionally they are hardly evident; they are sometimes short and broad, at other times long and narrow.

The most marked changes are seen in the corium. The connective tissue fibers of the entire corium are short, tortuous, very dense, thick and compact. In the papillary layer these fibers appear as though undergoing hyalin degeneration; this change is quite uniform in its distribution and is limited to this portion of the corium. The elastic tissue is composed of short fibers as if it had been affected by a morbid



Fig. 2 (Case 1).—Aged 10 years. Duration of pigmentation nine years. Showing zone-like arrangement of discoloration.

process. The elastic tissue of the network of the papillae is affected in a similar way, although the blood vessels are well preserved. A network of nerve fibrils is plainly seen in the papillae.

The same type of abnormal pigmented cells found in the rete mucosum are seen throughout the entire corium. These special cells consist of a pigmented nucleus surrounded by varying sized pigment granules in color from a golden yellow to a golden black. When in mass these cells are of different shapes—long, round, fusiform, some almost square; occasionally cells free from pigment are seen that correspond otherwise to these abnormal cells. These abnormal pigmented cells undoubtedly are chromatophores or melanoblasts. The masses of these cells are found in close proximity to the blood vessels which are often outlined by them; no other abnormal cells are found in such relation. The blood vessels of the papillary layer are the ones most often surrounded by these pigmented cells; sometimes these pigmented cells form trails as though replacing obliterated blood vessels through the subpapillary and deeper plexuses. In some places the chromatophores can be traced from the corium into the epithelium. The lymph spaces near the blood vessels are filled with chromatophores.

The sweat glands appear enlarged and the ducts are thickened; about the glands and ducts are found large numbers of these pigmented cells, even into the deeper portions of the corium. The sebaceous glands show an abnormal increase of racemose structure and are closely surrounded by strata of pigmented cells. It is notable that the various lymphocytes and epithelioid cells are rarely encountered. A very careful search for mast and plasma cells was made, but none was found.

*CASE 2.—Personal History.*—T. G., the 13-months-old brother of Case 1, was born in Buffalo. The mother states that the pregnancy and period of lactation with this child were uneventful; that she was very well during the entire period and that she took no drugs. He came under observation for the first time when 12 months of age. He developed normally and has had no wasting or constitutional diseases. The mother states that until recently the skin was very fair and the hair a very light yellow—"flaxen hair." His eyes have always been hazel. He never has had any of the exanthemata nor any other illness.

A discoloration of the hairy portion of the scalp began to show some two weeks before the child was a year old; the mother called attention to it with the statement that that was the place at which and the way in which the pigmentation began on the other child. A month later the pigmentation not only was pronounced upon the scalp but also quite noticeable on the body.

*Condition on Examination Feb. 1, 1919.*—The child was examined on a dull-gray, cloudy midday, in a room with an eastern exposure, well



Fig. 3 (Case 2).—Exposure at 10 p. m., July 2, 1919. Voigtlander Euryscope, 5.8 in. opening, lens 7 ft. from subject; Hammer special red label plate; 1.5 gm. Victor's normal grade flashlight powder.



lighted by diffuse subdued daylight. The boy is a normally developed child of robust appearance. General physical examination is negative. The eyes are hazel; the sclerae of normal tint. There are no scars or pigmented lesions in the mouth. There is no evidence of urticaria. The entire integument is universally discolored, varying in intensity of tint.

The scalp to the hair line shows a uniform light drab coloration without mottling; the hair, however, is flaxen and shows no evidence of pigmentation. The face shows an evenly distributed yellowish (sallow) tint. The neck, the arms and the hands show a light yellow-brown (fawn) coloration. The anterior, lateral and posterior surfaces of the chest and the abdomen show a light brown (*café au lait*) color which even extends to the upper part of the thighs. The nipples are deeply pigmented. The palmar and plantar surfaces are the only areas showing the normal pinkish-blond tint. The texture of the skin is perfectly normal, with no scaliness or other evidence of alteration except that on the back are seen three congenital deeply pigmented moles.

A very perceptible advance in the depth of the tints and in the intensity of the discoloration is discernible on March 15, 1919; in fact, the increasing deposit of pigment is easily noticed from week to week. The change in pigmentation from day to day is not apparent; after an interim of a month, however, there is a very notable increase of pigment. While it is apparent from the darkening hue that pigment is being progressively deposited in the skin, yet the depth of the color varies from time to time, depending somewhat on the clearness of the day; for instance, on Feb. 15, 1919, which was a dark and rainy day, the skin of the baby appeared much darker than on subsequent lighter days.

*Histologic Examination.*—With a dermal punch a small piece of tissue was removed from the back on a line with the twelfth rib. A certain amount of resistance was felt as the punch entered the corium, although less than that in the removal of the specimen from Case 1. Sections were prepared for examination and showed the same histopathologic lesions as described in Case 1, the only difference being one of degree; the changes were largely limited to the epidermis and to the papillary and subpapillary layers of the corium.

The stratum corneum shows no tendency to desquamate and appears quite normal. The strata lucidum and granulosum are practically normal. The stratum mucosum is somewhat abnormal; the deepest cells, particularly those seated on the corium, are changed in shape and position; the pigment granules are increased in amount. The usual rounded or ovoid cells have maintained most of their characteristic features, yet they are somewhat distorted; they also show considerable



Fig. 4 (Case 2).—Exposure at 10 a. m., July 3, 1919. Voigtlander Euryscope, 5.8 in. opening, lens 7 ft. from subject; Hammer special red label plate; 1.5 gm. Victor's normal grade flashlight powder.

pigmentation. Many abnormal pigmented cells corresponding to the chromatophores as well as nonpigmented ones appear among the normal rete cells; these abnormal cells vary in size and are of different forms. The smaller abnormal cells vary as to the distribution of the pigment; in some the pigment is confined to and deeply stains the nucleus; in others, in addition to the nucleus, the cell protoplasm is more or less packed with pigment granules. The larger abnormal cells are two to three times the size of a white corpuscle; they are often completely filled with black-brown granules.

About the only change in the corium is the presence of these abnormal, pigmented cells, which are more abundant in the papillary than in the subpapillary layer; they even are found in the subcutaneous tissue. The abnormal pigmented cells are found in groups which in general are very striking in appearance; these groups are rarely rounded in form; usually they have an elongated shape, extending in long masses that suggest the amalgamation of adjoining groups; these groups frequently are arranged about lymphatic spaces. Here and there in the surrounding tissue blood vessels, usually capillaries, show considerable dilatation; they generally show no other pathologic condition.

The pigmented cells vary markedly in their content of pigment; the spheroidal cells are heavily loaded, the polyhedral cells contain some times large masses, while the spindle-formed cells contain fewer granules. As a whole, these cells do not contain as much black pigment as those of Case 1. Most of the cells in this case are of the same general character as those of Case 1. There is no evidence of inflammation. No plasma or mast cells are found. The cutaneous nerves in the papillae are well defined.

*Light Phenomena.*—A singular phenomenon was observed in Case 2, while securing photographic negatives in an effort properly to illustrate the unusual distribution and color of the pigment. In the daylight from dim gray clouds the discoloration is quite strikingly noticeable. In the powerfully brilliant electric light from twelve 500 candle power lamps used to secure proper lighting effects for photography, the discoloration almost seems to disappear. The same intensity of the discoloration is also observed, but much less strikingly when the child is examined in a room with yellowish walls, dimly but naturally lighted through more or less translucent yellow tinted shades, while there is the same kind of color disappearance when the child is viewed in a room with intensely white walls brilliantly lighted by sunlight through unshaded windows. In passing from little to much illumination and vice versa these color intensity changes take place through such slow gradations that the mind actually becomes confused in regard thereto, and one only becomes sure that a change has occurred

when the two extremes of a given observation are considered. In order to eliminate possible error due to personal equation, the opinions of a number of persons were secured, who are expert in distinguishing tints and who had no previous intimation of the authors' observations; in every instance the phenomena here described were independently and definitely noted.

On applying the same light tests to Case 1, the older child, the same phenomena were found to occur. The color change is one of degree only; that is, as the child is exposed to more or to less intense light, whether natural or artificial, the depth of the coloration varies inversely as the brilliancy and intensity of the light.

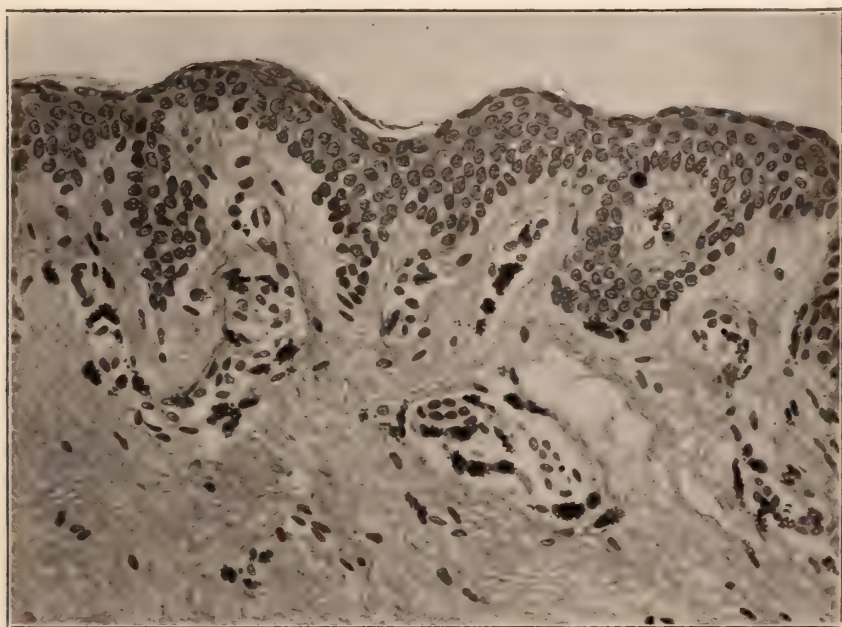


Fig. 5 (Case 1).—Drawing of microscopic skin section of Case 1, showing chromatophores in corium and epidermis.

*[Supplementary observations and discussion on light phenomena following the reading of the paper on June 17, 1919.]*

[As the personal equation is so very powerful a factor influencing the accurate determination of changes in shade and intensity of color, particularly when the basal colors are the yellows and browns of the human integument, the experimental observations to be described were carried out. The phenomena above stated are not from infrequent hasty observation nor from observations made through extremely short periods of time; they came in an effort to show that color intensity



changes did take place under the described conditions. No preconceived idea is entertained that the light phenomena thus repeatedly observed in these children are demonstrations of protective coloration but rather that the light phenomena here described suggest that of the well-known protective coloration in the lower forms of life.

The atmospheric and weather conditions in Buffalo during the month of June, 1919, were very unusual—temperature was that of midsummer, averaging 72 F.; barometric pressure was high, averaging 30.09 inches; there was almost uninterrupted sunshine—79 per cent. of sunshiny days—and the atmosphere was brilliantly clear. In consequence these children were out of doors almost continuously during the long June days, dressed very scantily in white. During June the children were seen frequently by competent observers at different times of the day, particularly early morning (9-10 o'clock) and late afternoon (5-6 o'clock), with the result that while pigmentation was always noticeable it was less conspicuous in the afternoon. Nevertheless, the uncovered skin areas of Case 1 developed a moderate tan from sun exposure, while those of Case 2 gave no evidence that exposure to the sun's rays caused the usual discoloration. Curiously, as the days passed, the abnormal pigmentation noticeably diminished, so that during the last days of the month, especially in the afternoon, it was, in Case 2, hardly perceptible; to the eye a stay in the house of thirty minutes produced no recognizable change in the intensity of the abnormal pigmentation. The mother, however, claimed that the coloration returns during the night.

At 5 o'clock in the afternoon of July 2, 1919, a clear and brilliantly sunshiny day, in Case 2, the skin had all the appearance of that of a decided blond. At 10 o'clock in the evening of the same day the child was photographically exposed under flashlight, and, under exactly the same photographic conditions, again at 10 o'clock in the morning of July 3, 1919. At the 10 p. m. exposure it was noted that the pigmentation present was as described in the text, except that the intensity was less marked than when the descriptive observations were made in February and March of 1919. At the 10 a. m. exposure it was noted that the pigmentation, although present, was so in a much less degree than at the 10 p. m. exposure.

At the 10 p. m. exposure just enough dimmed incandescent light was used to rapidly and properly focus the child at seven feet from the lens of a Voigtlander's Euryscope with a 5.8 inch opening. All light was turned off and after a blackness of a few minutes a Hammer special red label plate was exposed under a flash from 1.5 grams of Victor's normal grade flashlight powder. Except for the natural daylight, the 10 a. m. exposure was made under exactly the same condi-

tions of distance, lens and flash. The resulting photographs are shown in figures 4 and 5.]

*Etiology.*—A remarkable feature of these two cases of abnormal pigmentation is their probable congenital origin. The children were born blonds; no adventitious or accidental occurrence, prenatal or post-natal, took place to which can be ascribed the production of the coloration. The one possible exception to this statement being the occurrence, already mentioned, in Case 1 of an abscess in the neck which might have been tuberculous with subsequent invasion of the chromaffin system, and so the abnormal deposit of pigment be explained, but the like course of events in both cases would negative this possibility.

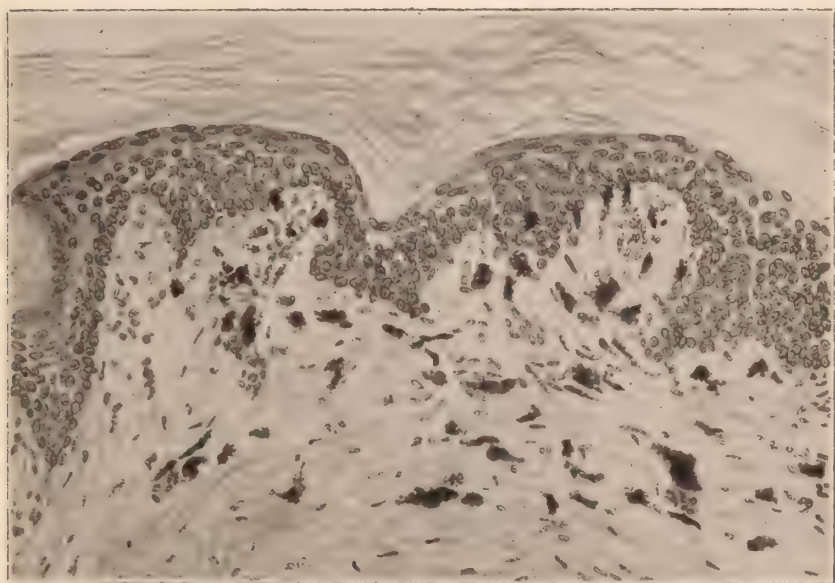


Fig. 6 (Case 2).—Drawing of microscopic skin section of Case 2, showing chromatophores in corium and epidermis.

The children were born of the same parents. The process commenced at identical locations on both, and at the same period of life. The spread of the discoloration and the development of its intensity are taking place in the younger child as they did in the older. If the similarity in the progress of the process continues in the younger child the discoloration will reach its height when he is 5 years of age and it then will be described as maroon-black; from the age of 5 the pigmentation will retrograde until at the age of 9 it will have the appearance as shown in the reproductions.

From the clinical facts obtained the pigmentation here is primary. The writers have been able to find among recorded cases only those in

which pigmentation appeared secondarily to other cutaneous or internal abnormalities; none has been reported as primary or idiopathic.

The abnormal histologic findings in the cases here reported are limited practically to the chromatophores throughout the lower layer of the epidermis and in the corium. The other changes are of such slight import that it is a question whether the process in these cases is not an abnormal physiologic specialization influencing the formation of these abnormal pigment cells. In spite of their great numbers, some regularity is observed in their arrangement. They are found throughout the sections in rows and columns, while in places they are grouped. The extraordinary picture of general integumentary pigmentation presented by these two cases, the occurrence, the distribution, the development and the tendency to return to normal have no parallel in any affection of the pigmentary system.

The occurrence of more or less permanent, very darkly pigmented areas in white-skinned persons is not uncommonly observed; such are the brown to black pigmentation of the external genitals of certain otherwise white-skinned males and females. The temporary dark coloration of limited areas of normally white skins also is quite common; such are chloasma, the deep pigmentation of the external genitals and the enlarging and darkening of the areola of the nipples in pregnant women.

During the past century, under the general head of nigritis, there have been reported in the literature many cases of abnormal pigmentation. The description of these cases suggests that they belong to that group of noninflammatory hyperpigmentations due to diseases in other organs, wherein are found Addison's disease, Graves' disease, malaria and acanthosis nigricans.

Chomel, in *Bull. de la Fac. de Med. de Paris*, 16, in 1814, describes the case of an old white soldier whose skin without appreciable cause became brown in some parts and yellowish brown in others; Goodwin, in the *Dictionnaire des sciences medicales*, published in Paris, in 1812, describes the case of an elderly white maiden whose complexion after the age of 21 became as black as that of a negro; and Mitchell Bruce, in the *International Atlas of Rare Skin Diseases*, Pt. XVII, published in 1891, describes under "Anomalous Discoloration of the Skin and Mucous Membranes" the case of a white man whose skin began to discolor in 1888 and without known cause assumed a tint like argyria.

Frank G. Knowles reports, in the *Journal of Cutaneous Diseases*, 1912, 30, 83, under the title of "Multiple Areas of Pigmentation," a case which he concludes is an ephelis. In the article he refers to many other cases of pigmentation, none of which parallel the cases here reported.

Howard Fox reports, in the *Journal of Cutaneous Diseases*, 1912, 29, 97, a case of extensive pigmentation on which no biopsy was performed and which Fox intimates was probably a nevus. The case resembles those here reported in that pigmentation began in infancy and covered practically the same areas, but it differed in that the onset was not gradual and the discoloration was persistent.

The suggestion that the writers' cases might be unusual instances of urticaria pigmentosa is hardly tenable, because neither patient has ever presented any urticarial lesions, nor do the sections show the striking numbers of mast cells; on the contrary, mast cells are conspicuously absent.

Inflammatory hyperpigmentation can be ruled out readily from the entire absence of a history of any antecedent or concomitant inflammatory disease and from the histologic findings.

Hemachromatosis is hardly to be thought possible as taking place in two individuals in such a manner as the pigmentation has occurred and is occurring in these cases, even if the distribution, development and disappearance were entirely ignored.

That arsenic or other drugs might be the etiologic factor cannot be considered, as is shown not only by the negative history but by the progress of the pigmentation process and by the histologic pictures.

The occurrence of two cases in a single family unaccompanied by any subjective or objective symptoms of disease and with the tendency to return to normal, make their grouping among cases of noninflammatory hyperpigmentation due to known diseases unlikely.

The occurrence of hyperpigmentation has been ascribed heretofore to disturbances of the chromaffin system induced by known antecedent or accompanying diseases; in the cases here reported the hyperpigmentation has occurred without the presence of any known disease, so that the abnormal function of the chromaffin system probably is due to its prenatal disturbance.

#### CONCLUSIONS

1. The occurrence, parallel onset and development of abnormal pigmentation in two members of the same family was unusual.
2. The occurrence of the pigmentation was primary and congenital in character.
3. The process suggests abnormal physiologic function rather than pathologic disturbance.
4. There is in the literature no parallel case in the area involved, in the time of onset, in the development and recession of the pigmentation and in the absence of any known cause.



5. The histologic findings were limited to abnormal cells corresponding to chromatophores.

6. The pigment apparently was derived from nuclear material.

7. There was an occurrence of rare light phenomena suggesting protective coloration.

471 Delaware Avenue.

#### DISCUSSION

DR. FORDYCE asked whether there was any pigmentation of the mucous membranes. Some years ago he had seen an extensive pigmentation of an adult where there was marked pigmentation of the mouth and tongue. He had suspected Addison's disease, but it was not accompanied by cachexia.

DR. LITTLE wished to correct an impression which Dr. Wende had conveyed, and that was that urticaria pigmentosa was an itching affection, whereas the absence of itching was one of the great features.

Second, there were certain cases which occurred without mast cells, although the mast cell increase was the more common condition.

He could not attempt a diagnosis, but the lesions did suggest urticaria pigmentosa. One of the cases of the speaker's referred to by Dr. Wende was a case of urticaria pigmentosa and one of these pictures very strongly recalled that case. The absence of itching and mast cells was not absolutely contradictory to the diagnosis.

DR. GILCHRIST thought the variation in the color might be due to contraction of the pigment cells of the corium, like the pigment cells of a chameleon, on exposure to intense light; they lie underneath the epidermis and send out long thin projections, with pigment cells in them, in between the epidermal cells, and sometimes the pigment cells were situated in the epidermis itself. If these cells were present in large numbers in the case, it was possible, in order to explain this variation in color on exposure to light, that after being in the dark, these cells contracted. He had never seen nor heard of any such phenomenon occurring before. Was it possible that the case might be one of an unusual type of urticaria pigmentosa?

DR. FOERSTER asked if the chemistry of the urine had been investigated. Some years ago, Virchow described a peculiar pigmentary disorder, associated with characteristic metabolic changes which he labeled "ochronosis" of which the speaker had seen two cases. The pigmentation differed from that observed in Dr. Wende's cases both in intensity and distribution, and was permanent, but it occurred to him that it might be profitable to make an inquiry into the chemistry of these cases.

DR. TRIMBLE would not attempt to make a diagnosis, but stated that some years ago in a short clinical paper on neurofibromatosis he published one case in which there were large areas on the back of a woman, with no tumor formations. That was put in because it was generally understood that the pigmentation of von Recklinghausen's disease preceded the formation of tumors, by fifteen or twenty years. The speaker wondered whether, at a later date, there might not be some tumor formation in these children. The pigmentation in Dr. Wende's cases was very much darker than in ordinary von Recklinghausen's disease, but the latter disease was sometimes a familial trouble. He had observed it in mother and daughter. In both patients it had occurred at the age of sixteen, and in both the tumor formation was preceded by marked pigmentation.

DR. POLLITZER asked whether the color really disappeared under bright light, or whether it only seemed to disappear. Did the bright light make the discoloration of the skin seem to disappear; was there simply an inability to recognize the color under the bright light, such as occurs when we examine

the skin with the ultraviolet light; or was there a real disappearance of the pigment due to contraction of pigment cells? If there was a temporary disappearance of pigment it would take a little while for this to occur, it could not be instantaneous; but if it was simply a semblance of disappearance under the bright light—an illusion—that would become apparent the moment the light was turned on.

DR. WENDE, answering Dr. Fordyce, said that there was no pigmentation of the mucous membrane present. This was brought out in the paper, of which he had read only an abstract.

As to Dr. Little's remarks, these points were carefully considered in his paper. He appreciated the fact that there might be urticaria pigmentosa without any subjective sensation, but it would seem very unusual to consider seriously urticaria pigmentosa in the complete absence of the characteristic masses of mast cells, as shown in the histologic finding in the cases reported. The only pathologic cells found were the chromatophores. The pigment was distributed in the tissues uniformly, and at no time were there any primary lesions.

As to the questions of Dr. Foerster, they also considered that phase of the subject, but could see no resemblance. Examination of the urine had been made, as suggested by him.

He saw no strong evidence wherefrom they might expect the presence of a variety of von Recklinghausen's disease, as suggested by Dr. Trimble. The pigment development in both children began at the same age and at the same site. It began first on the scalp, and subsequently and at about the same age invaded first the neck, then the trunk, then the limbs and finally the face. This incidence, sequence and uniformity of pigmentary change made these cases unique and fairly in a group by themselves.

The questions of personal equation and psychologic influence raised by Dr. Pollitzer were in their minds for a long time. The speaker appreciated that the noted change in shade might be an optical illusion when an effort was made to mentally record the contrast in the shade seen when the child was observed in a poorly lighted room with the shade seen when the child was observed in the brilliantly illuminated area created for photographic purposes. He had the patient placed in a poorly lighted room; an artist painted the pigment color on a plaque to record the color which he observed. The patient was then taken into a very light room where the artist again painted the color observed. The two painted records were then compared with the result that a change was noted. He did not see how more could be done to check up the observed color change. The color change observations were made in such a way that the time interval was inconstant. If the time interval in securing the pigment-shade-records on the plaque by the artist was very short, no appreciable contrast was noted.

DR. POLLITZER said that the time for the physiologic change to take place would necessarily require at least a number of minutes and there were no such cases on record. In some animals, the chameleon particularly, a similar change took place very rapidly—within a few minutes. He wished to know whether the pigmentation really disappeared or did it only seem to change.

DR. WENDE said that they had the color changes under observation and consideration for a long time; that independent observers agreed that there were changes in the color of the skin under varying light intensity.

The shortest time measured in which an observed change in color intensity took place was five minutes. He did not think that this was an optical illusion but that an actual change in the depth of the pigmentation took place.

## RECENT PROGRESS WITH SYPHILIS \*

H. G. IRVINE, M.D.

Assistant Professor of Dermatology and Syphilology, University of Minnesota Medical School; Director, Division of Venereal Diseases, Minnesota State Board of Health

MINNEAPOLIS

In all of the great activities carried on directly or indirectly in connection with the war, one of the things which was striking was the submergence of the individual in the group movement—the fitting of the cog into its proper place in the wheel. In practically every nationwide campaign, great stress has been laid on securing the combined efforts of the many, and of the need of every individual giving his time or money, or time and money, as a service for the common good. So far as the war was concerned, the health of our troops was the great problem and the great opportunity for service for the medical profession. The wonderful record made in the army, together with the publicity given the work, has been a great stimulus to public health work in general, and many men are showing a desire to take a part in this movement who have never before taken an interest in this angle of medicine.

The program of the Surgeon-General gave due acknowledgment to the specialist and more attention was paid to the specialties of medicine in the army than ever before. Among others the specialist on skin and venereal diseases had a great opportunity, as this field presented not the smallest problem. There can be no doubt but that the expert advice which was sought and freely given, as well as other service, was largely responsible for the great success of this work in the army. The work with syphilis and gonorrhea, just as with other health activities, will now be directed very largely to civilians, and there is the same need for leadership in this field that there was in the army. The man specially trained in any field of endeavor is the man above all others who should be a leader, if success is to be the result.

The literature of the past few years has been indicative of the fact that the dermatologist is logically the syphilologist. To the man who is desirous of giving of his time for public good, syphilis must make the greater appeal. The man who is desirous of furthering the great ideals fostered by the war must see this opportunity for service which is given to the syphilologist in relation to public health.

Since the discovery of the spirochete, the advent of the Wassermann test and the arsphenamin preparations, a decade or more ago, no more

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\* Read before the Forty-Second Annual Meeting of the American Dermatological Association, held at Atlantic City, June 16-18, 1919.

noteworthy progress has been made than has resulted from the emphasis placed on medical school education and public health activities as related to syphilis. Recent progress with syphilis depends entirely on the perfecting and standardizing of our treatment with mercury and arsphenamin, on the new and broadened scope of our teaching and on the various factors associated with the general public health campaign.

#### PROGRESS IN TEACHING OF SYPHILIS

During the last two or three years several papers have been written, some by members of this society, on the teaching and treating of syphilis, and as a possible result of this propaganda there has been undoubted improvement in both of these in a number of the better schools. In a general way, one might say that there has been a tendency to centralize both the teaching and treating either in a department by itself or, as the writer believes best, in the department of dermatology and syphilology. The advantage of this is of special value in the treatment, in that it places the responsibility squarely up to one department or to one individual as the head of that department. It has resulted in bringing under routine and continuous treatment numerous cases previously treated only symptomatically under the departments of eye and ear, nose and throat, nervous and mental, urology, etc. Without doubt this step alone has made for great progress in the successful treatment of these patients. The addition of adequate social service in connection with this work was another step of decided importance which has resulted very largely in having patients continue their treatment sufficiently long to arrive at a probable cure. Social service has also performed a great service in reaching into the families and bringing all of the syphilitic members into the clinic. This service alone has probably resulted in adding 25 per cent. to the attendance of the clinic, which should mean an increased number of patients cured and a decrease in tabetics and paretics, as well as a smaller number of congenital syphilitics.

The modern methods of teaching in association with the modern dispensary are gradually resulting in a more enlightened general practitioner, and who shall say how far-reaching this will ultimately be in reducing this plague?

#### PROGRESS IN PUBLIC HEALTH ACTIVITIES AS RELATED TO SYPHILIS

The other great step in recent progress in syphilis, the public health campaign, is the one to which I wish to call particular attention in this paper, and especially do I wish to emphasize the need of the dermatologist and syphilologist taking their part in this. For us in particu-



lar it is a new and unexplored field, but the fact that it is comparatively new and unexplored gives the man trained in all other phases of the problem a decided advantage over all others.

What are some of the things which make for progress which may fairly be credited to this great movement? First and foremost, it has established official recognition of syphilis and gonorrhea as public health problems, as evidenced by the creation of the Bureau of Venereal Diseases in the U. S. Public Health Service, and by special divisions or bureaus in nearly every state board of health in the country. Along with this must be mentioned the appropriation by the federal government of several millions of dollars to be spent in various ways in combating these diseases. A million dollars was apportioned among the states on a population basis to be spent in a general way: 10 per cent. for administration, 20 per cent. for educational work, 20 per cent. for law enforcement, and 50 per cent. for establishing and financing clinics and furnishing free treatment.

Another of the important early steps was the destruction of many notorious "red light" districts. With public health as the issue, this work was done in a few months, whereas these citadels had withstood the assaults of "morals" for years. Without doubt we still have most of the recruits of these districts with us and they still carry on their trade and spread disease, but also, without a doubt, with a very much diminished clientele. Figures collected by army officials indicate approximately an immediate reduction by 50 per cent. the exposures and infections among troops when open houses of prostitution in their proximity were closed up. It is fair to assume that there was also some benefit in the civilian population, but figures are, of course, not available.

No real benefit will result from this work unless there is a continuous campaign carried on and until the state makes proper provision for long-time commitment to reformatories for confirmed prostitutes. When proper reformatories and adequate provision for the feeble-minded are at hand, constructive work on the problem of prostitution will be possible.

As a requirement for a state to receive its federal allotment of money, each state had to inaugurate some system of reporting these diseases. This will give us ultimately some idea of the numbers of infected persons. It will undoubtedly be years, if ever, before the reporting approaches 100 per cent., but the data will be valuable, nevertheless. In most systems delinquent and incorrigible patients are reportable by name. Health officials can be instrumental then in seeing that treatment is continued or that, if necessary, quarantine is instituted to bring the incorrigible to time. In many report systems provision

is made for reporting the source of infection. This for the first time gives opportunity for getting at the clandestine prostitute. The success of this depends very largely on the cooperation of the profession. As a suggestion of the possibilities, our social service department in the work of the Minnesota State Board of Health, under my direction, is handling approximately 100 cases a month from information of this character from our report cards. Great emphasis has been placed on the social service work of the special divisions of the State Boards of Health, and this has resulted in many cases in increased efficiency of this work in all clinics. It also furnishes directly, to a certain extent, a corresponding service to the private practitioner if he wishes to avail himself of it.

The campaign has assisted materially in putting the quack out of business. It has reduced to a great extent drugstore and self-treatment.

A noteworthy work has been done along educational lines, through all sorts of publicity, lectures, pamphlets, moving pictures, etc., the results of which will without doubt be far reaching. It may have a deterrent effect on some, it may bring some for prophylactic treatment, and it will surely bring many early to the reputable physician, where proper treatment can be instituted.

Perhaps the most practical step in progress resulting from this campaign has been the opening of hundreds of new dispensaries. In May the U. S. Public Health Service reported over 250 dispensaries operating in conjunction with their service. Here is the place above all others where failure is bound to follow if the specially trained man doesn't come forward. Publicity is bringing thousands of patients to these dispensaries; obviously no good can come if incompetent men are in charge. In Minnesota we have been fortunate in arranging for trained physicians in all the dispensaries organized in conjunction with the Board of Health, and the attendance has grown by leaps and bounds. Begun in October, 1918, the evening dispensary for men operated at the University now has an attendance reaching as high as eighty or ninety per session, about equally divided between syphilis and gonorrhea. University students are given credit for working in this clinic. The man in charge is a member of the faculty and is paid through the State Board of Health. The other clinics which have been started are going equally successfully, and there is a nightly attendance of nearly 300 patients. A great many of these patients were previously receiving no treatment, self-treatment, quack treatment or at best, poor treatment. The attendance at the day clinics has hardly dropped at all, so it is fair to assume that we have largely a new group coming under treatment. With the state's free arsphenamin many of these patients are being given for the first time opportunity to get anywhere near a sufficient number of doses of this drug. In many states these

dispensaries are going to be a failure owing to the fact that the authorities, if left to themselves, will put incompetents in charge. It isn't fair for the specialist to sit on the side lines and see this work go by default; this is an opportunity for service that he should feel in duty bound to grasp. This work must be placed on a plane where it will command the respect of the profession, else it will fail. This is a psychologic time, the public is paying attention as never before, the profession is looking for leadership, boards of health will gladly receive advice—will the specialist stand aloof, as many have in the past, or will he lend his aid and help direct this great movement?

Much is being made of laboratory service, and nearly all states offer, or will shortly offer, free Wassermann tests. This will result in much harm if not expertly controlled, and the profession needs much assistance in being taught to place the proper value on this test. Here again the guidance of the trained man is needed to see that this laboratory service is properly checked up on the clinical side and to do his part in his community in seeing that syphilis is not diagnosed every time a positive report goes forth. In spite of all the emphasis placed on it in the literature, many men in rural communities are absolutely uninformed or misinformed, and we must seize every opportunity to get this straightened out by personal contact with the men in our communities. This is a service not alone to the physician, but to the public, who would otherwise suffer.

In the matter of securing appropriations the trained man with his knowledge can also be of great service. Inadequate or poor presentation of the problem is likely to result in failure to secure the funds necessary to carrying on the work. My own experience in this regard might well be cited: Our budget was presented in the routine way with others of the State Board of Health, at a formal hearing. Officials of the board went over the proposed work with the finance committee; the senate reported omitting entirely any appropriation for venereal disease work. After considerable publicity had helped to arrange for a rehearing, I was given special opportunity to present the case. At the conclusion this committee voted unanimously to give the requested \$38,000. This was simply due to the fact that they were given convincing figures and facts from one reputed to be informed, and I am quite convinced that unless this had been done the work in our state would have been seriously curtailed.

#### CONCLUSION

It has been my purpose to sketch for you briefly the progress which has recently been made with syphilis along the lines which make for its control and reduction, rather than to attempt to enumerate the many technical improvements in diagnosis or treatment, which have benefited



directly the individual patients. I have tried to suggest to you the scope of the movement and the need for cooperation, and above all, to emphasize the opportunity for the syphilologist to fit himself into this, to assume his proper leadership, and in doing it, to render his greatest service to humanity.

#### DISCUSSION

DR. GILCHRIST asked whether syphilis was a notifiable disease in Minnesota, as it was in Maryland. He thought this was the only way to deal with the cases in the cities, and wondered how they would be reached in the small towns and country districts where the disease was sometimes quite prevalent. In France an effort was made to have a syphilographer visit the small towns and country districts once a week to help out in the work, and he considered this a fine idea for the small towns as well as for the large ones.

DR. LITTLE said that he could not give any definite information regarding the working of the Act in England, because they had been largely "marking time" during the last four years. In about half the medical schools in London the work had been given into new hands, new departments being formed for the work in syphilis. In the other half neurologists had taken over the work. At present it was in transit and had not as yet been at all possible to standardize the matter. They were just getting their breath from a very severe struggle, and during that struggle nothing had been possible except the everyday needs of the situation.

DR. PUSEY thought that Dr. Irvine's paper should not be allowed to pass without being highly commended. He greatly sympathized with Dr. Irvine's appeal to the dermatologists to take part in this campaign against syphilis. Whether their failure to do this was due to modesty or to failure to arouse themselves to the importance of the subject, he did not know, but he thought it was a fact that they had not become as active in this work as they should become. The movement had received a great impetus. It was undoubtedly being overdone in some directions, but while it had momentum we should take advantage of a situation which offered greater prospects of advancement in this work than we had ever seen before. The communities were aroused now to the importance of taking care of syphilis as a disease, and that was the question which the dermatologists were most interested in. He could confirm Dr. Irvine's experience that the authorities were ready to cooperate with the medical profession in handling this problem wherever they could get good medical leadership. It was very important that we should do our share in furnishing this leadership. Clinics were being established all over the country for the treatment of venereal diseases in a way that was never done before. Unfortunately, it was difficult to get competent men in the treatment of syphilis to man clinics. The dermatologists should do their part in correcting this difficulty.

DR. BIDDLE thought it might be interesting to the Association to know that during the war probably no other state did so much in the way of prevention as did the state of Michigan. It had an appropriation of \$5,000,000, which was placed at the disposal of the War Board. The speaker was a member of the state board of health and the governor was very liberal in allowing this board to use such sums of money as it thought wise in combating venereal disease at Camp Custer. In addition, he thought the state had on its statutes the strongest law regarding the reporting of syphilis that existed anywhere. A sum of \$300,000 has been appropriated by the last legislature to be used by the state board of health in combating venereal diseases. This is in addition to the large appropriation from the United States government. He thought Dr. Irvine would be interested to know that the state of Michigan was probably in the foreground in this work. He suggested that Dr. Varney, who had taken up the work in the city of Detroit under the direction of the state board of health,



enlighten the Association about it. He wished to add his word to Dr. Pusey's about the advisability of continuing the work.

DR. VARNEY said he could not add much except that, as a dermatologist, he had attempted to guide this work in Michigan as Dr. Pusey and Dr. Irvine had suggested and requested. They had been rather fortunate in their appropriations in the state of Michigan through their governor and legislature, the latter body setting aside an appropriation of \$300,000 above the federal and state appropriations. He had been interested primarily in the Venereal War Measure, the zone about the cantonments, and also the hospitalization of the venereal carriers found in these zones. In his service they cared for a large number of these cases in a general hospital on a special floor, where the patients could not escape, and this service had constantly developed, both medically and educationally. They did a great deal of pioneer work regarding routine primary treatment for both venereal infections, educational and vocational training, teaching everything except domestic science, that department not having yet been completed. A trustee of the hospital equipped a machine shop where all of these forcibly hospitalized patients who were able could earn twenty-six cents an hour and when they were discharged they could go out with a pay check with which they could buy appropriate clothing and not be obliged to go back to their old walk in life. If they lived in Detroit, they were placed under the very careful social service of this institution, and if they lived outside of Detroit, the state health board had divided the state into zones and appointed physicians and nurses to care of the charges sent to them.

DR. WALLHAUSER added a word for the city of Newark, N. J. In answer to Dr. Gilchrist's question as to what the small towns would do, Newark, which was working for a general improvement in advancing the modern methods of treatment, had extended the privileges of the clinics to the smaller towns of their county. He hoped that this public health work which had been so well started would continue with added interest.

DR. IRVINE thought he was right in saying, in reply to Dr. Gilchrist's question regarding notification, that forty-five states now required such notification. He based this statement on the fact that a state must have some system of notification in order that it receive its allotment of federal money, and only a few states had not accepted this appropriation. As to the rural districts, he thought it was fortunate in a way that syphilis was more or less an urban disease. He did not know of any way to have the very small towns served with treatment unless the state appropriated a certain sum of money to furnish well trained men in certain districts and have the patients sent to them. Anything short of that he thought would not be worth while. He thought we had the problem of taking care of the end results of the syphilis that now existed but must look to the future, and in looking to the future, the work that was being carried on by the public health campaign was probably the best thing for the prevention of end results fifteen or twenty years hence.

# Review of Dermatology and Syphilis

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Under the direction of FRED WISE, M.D., New York

Assisted by

PAUL E. BECHET, M.D., New York	OSCAR L. LEVIN, M.D., New York
W. H. GUY, M.D., Pittsburgh	M. L. RAVITCH, M.D., Louisville
ROBERT C. JAMIESON, M.D., Detroit	ISADORE ROSEN, M.D., New York
M. F. LAUTMAN, M.D., Hot Springs	VICENTE PARDO, M.D., Havana, Cuba
A. W. STILLIANS, M.D., Chicago	C. C. TOMLINSON, M.D., Omaha
J. FRANK WAUGH, M.D., Chicago	

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## PROCEEDINGS OF THE ROYAL SOCIETY OF MEDICINE

(*March, 1919, 12, No. 5*)

Abstracted by W. H. GUY, M.D.

CASE OF THE CONDITION DESCRIBED AS "MULTIPLE. BENIGN. TUMOR-LIKE NEW GROWTHS." J. J. PRINGLE AND HENRY MAC-CORMAC, p. 21.

The case was one of the condition described by Schweningen and Buzzi under the title given above. The eruption appeared first on the chest, later involving the abdomen, back, thighs, arms and neck. The early lesions are described as slightly prominent papules, while the later lesions were soft bladder-like tumors which could be squeezed back through buttonhole-like apertures in the skin. The presence of innumerable white atrophic pitted scars is accounted for by spontaneous evolution of old lesions.

MYCOSIS FUNGOIDES. E. G. GRAHAM LITTLE, p. 24.

A middle-aged man presented himself with large areas of slightly infiltrated, scaly dry dermatitis scattered over the entire body. Little itching was noted. An unusual feature in this case was the development of a granulomatous tumor of the face long before the appearance of the pityriasis.

MORPHEA GUTTATA. J. L. BUNCH, p. 24.

This is a case report of a girl, aged 9, with several ivory white, distinctly sclerodermatous patches on the legs and abdomen. The disease was of two years' standing. Several evanescent, erythematous patches were noted on the child's back from time to time, and she has been noted to be emotional and excitable.

ARSENICAL PIGMENTATION AND HYPERKERATOSIS OCCURRING IN THE COURSE OF DERMATITIS HERPETIFORMIS. E. G. GRAHAM LITTLE, p. 31.

This article is a report of a case.

## BRITISH MEDICAL JOURNAL

*(Jan. 11, 1919, No. 3028)*

Abstracted by J. F. WAUGH, M.D.

## OBSERVATIONS ON ADMINISTRATION OF ARSENIC IN SYPHILIS. W. T. LOCKHART AND J. R. ATKINSON, p. 33.

The authors describe a method of administering salvarsan and its derivatives which was used in the Canadian special hospital at Witley. The preparation is given intravenously in concentrated form by the syringe method, a 2 c.c. syringe being used. They claim that two medical officers and two orderlies can give from fifty to seventy-five injections in less than an hour. The method and amount of treatment as used and given at the Canadian hospital is described in detail.

*(Ibidem, Jan. 11, 1919, No. 3028)*

## ABSTRACT OF THE BRADSHAW LECTURE ON CANCER OF THE TONGUE. D'ARCY POWER, p. 37.

Cancer of the tongue is remarkable because it is almost entirely a human disease; it is always of one type; it is unknown in children; it is common in men, rare in women; it is not associated with any inherited predisposition to carcinoma. The first recorded case was in 1634. In recent years the number of cases is steadily increasing. Dr. Stevenson, the Registrar-General, is quoted as follows: "The increase among males of deaths from cancer of the jaw, and especially of the tongue, is remarkable and can scarcely be explained by improved diagnosis." Although cancer of the tongue presents little difficulty of diagnosis in its later stages, the recorded mortality has increased among males by no less than 228 per cent. in forty-one years. The increase, moreover, is entirely confined to the male sex. The possible factors causing this increase were considered. Irritation from carious teeth was not believed to be more frequent now than centuries ago, as Roman skulls found in England had nearly as many carious teeth as there are in the skulls of Englishmen who died within the past two hundred years. If cancer of the tongue was due to carious teeth, the disease should have been well-known to the surgeons of Rome, and none of the writers of that age refer to the disease. In reference to pyorrhea, the virulence seems to have increased. The question of syphilis in its relation to cancer of the tongue is discussed in detail; the author's conclusion is, that syphilis cannot be considered as more than a predisposing cause, because lingual carcinoma occurs in animals. An exciting cause which has become more prevalent during the past fifty years must be found if the increase in cancer of the tongue is to be attributed to it. The cause must also be one which acts more in men than in women. The increased consumption of tobacco seems to fill these conditions. Smoking acts in two ways as an irritant to the tongue, partly through the nicotine and partly by the increased heat in the mouth which is measurable by the thermometer. Although the predisposing and the exciting causes of cancer may be known, the actual cause has not yet been discovered.

*(Ibidem, Jan. 25, 1919, No. 3030)*

## HERPES ZOSTER; ITS CAUSE AND ASSOCIATION WITH VARI-CELLA. R. CRANSTON LOW, p. 91.

Three case reports are given preceding the discussion of the subject. Case 1 was a severe herpes zoster affecting the first division of the fifth cranial nerve in a man 43 years of age. The patient had never suffered from chickenpox. Thirteen days after the first signs of herpes zoster appeared,

two of his children developed chickenpox and two weeks later two other children developed the same disease. No history of exposure to chickenpox could be obtained.

Case 2 was a herpes zoster in a hospital patient. Two days after the zoster developed, a child in the same ward developed chickenpox. Infection from an outside source could not be excluded.

Case 3 was typical herpes zoster in a child that was taken to a hospital for treatment. Nineteen days after admission another child in the same ward developed varicella. A large number of references are given where observations have been made of cases in which varicella has followed herpes zoster. In all the recorded cases the varicella eruption appeared in from eight to twenty-one days after contact with a case of herpes zoster; that is, within the usual incubation period of chickenpox.

The converse condition, namely, chickenpox followed by herpes zoster usually in from two to five weeks, has also been observed. A number of references are given in which such cases of herpes zoster and a varicella-like eruption occurring in the same individual have been recorded under the title "herpes zoster generalisatus." A number of references are also given in the author's discussion of this group.

The etiology and points of similarity between the disorders are discussed in detail, the characteristics of the individual lesions, the numerous instances where one disorder follows the other, and the immunity acquired in both conditions are especially emphasized as factors leading to the conclusion that the two diseases are due to the same virus.

*(Ibidem, March 8, 1919, No. 3036)*

FEBRILE ACIDOSIS IN SCARLET FEVER IN CHILDREN. R. E. THOMAS, p. 274.

This is a plea for the careful examination of urine in scarlet fever patients. An acidosis is frequently present, and can be remedied by the administration of sodium bicarbonate.

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## JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

*(March 1, 1919, 72, No. 9)*

Abstracted by OSCAR L. LEVIN, M.D.

HYSTERICAL APHONIA, ASSOCIATED WITH LATENT SYPHILIS.  
CHARLES WOLF AND E. G. BEEDING, p. 639.

The writers report the occurrence of aphonia in a case of latent syphilis. Antisyphilitic treatment had no effect on the laryngeal condition, which disappeared, however, following the administration of a general anesthetic.

*(Ibidem, March 22, 1919, 72, No. 12)*

RAGWEED DERMATITIS. LOUIS HANNAH, p. 853.

A case of ragweed dermatitis is reported which was apparently benefited by subcutaneous injections of Fall Pollen Extract-Mulford.

THE ULTRAVIOLET RAYS IN THE TREATMENT OF CHILBLAIN.  
OSCAR L. LEVIN, p. 855.

Three cases of erythema pernio are reported which were relieved by local exposure to the ultraviolet rays emanating from a mercury vapor lamp. It



is suggested that the rays be employed for prophylactic and therapeutic purposes.

BASAL-CELL EPITHELIOMA. A. C. BRODERS, p. 856.

The following findings depend on clinical and anatomic observations in about 250 cases of basal-cell epithelioma. Basal and squamous cells can be shown intimately connected in a neoplasm. It seems to be a well-established fact that a basal-cell epithelioma can change into a squamous-cell epithelioma, or at least into an epithelioma in which the squamous cells predominate. It occurs more often in males than in females, the proportion being three to two; in patients past middle life, and in farmers more often than in any other class of people. A family history of malignancy and a personal history of injury play a negligible part, but a previous mole, wart, pimple, eczema, scab or ulcer was associated in 37.1 per cent. of the cases. Statistics would indicate that excision with the knife alone or excision followed by the cautery give the best results.

(*Ibidem*, March 29, 1919, 72, No. 13)

GENITAL DEFECTS AND VENEREAL DISEASES AMONG THE PORTO RICAN DRAFT TROOPS. HERMAN GOODMAN, p. 907.

Almost 10 per cent. of 12,000 Porto Rican draft troops were registered in the venereal department of the camp in three months. The writer emphasizes the common occurrence of hydrocele and elephantiasis of the scrotum, both conditions being produced by filaria. Two cases of yaws were observed, the diagnosis being confirmed by the positive finding of the *Treponema pertenue*.

SPECIAL REPORT OF THE ATTORNEY-GENERAL OF PORTO RICO CONCERNING THE SUPPRESSION OF VICE AND PROSTITUTION IN CONNECTION WITH THE MOBILIZATION OF THE NATIONAL ARMY AT CAMP CASAS.

(February, 1919)

Abstracted by OSCAR L. LEVIN, M.D.

The first report of conditions at Camp Las Casas (Aug. 10, 1918) showed the admission of a greater number of persons suffering from venereal diseases in Camp Las Casas for the preceding week than in any camp or department. The conditions of vice and prostitution in Porto Rico necessitated immediate action if the mobilization was not to be attended by venereal disaster.

In order to eradicate this condition all women who were sentenced to imprisonment were examined for evidence of venereal infection and were confined to completely reorganized and prepared prison hospitals. At these institutions they were given adequate medical treatment. In the Ponce district jail the reports of the doctor of the jail and of Lieutenant Goodman showed that 92 per cent. of the women had gonorrhea, and 52 per cent. had syphilis, 12 per cent. of which had active syphilitic lesions that could be diagnosed clinically. Before being recommended for parole a woman must have observed good conduct; showed no evidence of disease; must show a useful occupation and report monthly. As a result of these repressive measures Camp Las Casas showed in December, 1918, a remarkably low rate, 49.7, for venereal disease.

In his report the attorney-general mentions Col. Orval P. Townshend, Lieutenant-Colonel Lippitt and Lieut. Herman Goodman for the aid rendered in the repression of venereal diseases in Porto Rico.

## MEDICAL JOURNAL OF AUSTRALIA

*(Jan. 18, 1919, No. 3)*

Abstracted by OSCAR L. LEVIN, M.D.

A CASE OF ANGIONEUROTIC EDEMA COMBINED WITH URTICARIA, WITH PURPURIC STAINING, RAYNAUD'S DISEASE AND SCLERODERMA. H. SWIFT, p. 49.

This article is a report of a case in which, the writer states, there seems to be an etiologic relationship between the cutaneous manifestations and vasomotor disturbances caused by anaphylaxis.

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NEW YORK STATE JOURNAL OF MEDICINE*(March, 1919, 19, No. 19)*

Abstracted by OSCAR L. LEVIN, M.D.

SYPHILIS AND THE GENERAL PRACTITIONER. ALBERT T. LYTLE, p. 96.

In this paper the writer emphasizes the responsibility of the general practitioner in making the early diagnosis of syphilis. Every indolent sore, no matter where situated, must be regarded with suspicion and the search for spirochetes instituted; when these are found intensive treatment must be instituted immediately to abort the disease. It is stated that the Wassermann reaction is the most reliable proof of infection, and the writer gives the precautions to be observed in obtaining specimens of the blood for examination. In the treatment of the disease, mercury is considered the one ideal remedy.

## ERRATUM

The formula for Whitfield's ointment given in Dr. White's article on "The Question of Epidermophyton Infection" in the August issue of THE JOURNAL, p. 514, fourth line from the bottom of the page should read: Salicylic acid 2, benzoic acid 4, benzoated lard 30. The error was typographical, and the editor assumes responsibility.

# THE JOURNAL OF CUTANEOUS DISEASES

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WHOLE No. 444

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## Original Communications

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STUDIES, REPORTS AND OBSERVATIONS FROM THE  
DERMATOLOGICAL DEPARTMENTS OF THE BARNARD  
FREE SKIN AND CANCER HOSPITAL  
AND THE SCHOOL OF MEDICINE,  
WASHINGTON UNIVERSITY

ST. LOUIS, MO., U. S. A., SERVICE OF DRS. M. F. ENGMAN AND  
W. H. MOOK

### I.

#### AMEBIASIS CUTIS

M. F. ENGMAN, M.D., AND A. S. HEITHAUS, M.D.  
ST. LOUIS

#### REPORT OF CASE

*History.*—The patient, L. H., a boy aged 5, the subject of this discussion, came to the Barnard Free Skin and Cancer Hospital on Oct. 19, 1916. He was referred to this institution by Dr. Paul Baldwin of Kennett, Mo., who stated that the case seemed to be “an unusual type of skin trouble.”

The boy was brought by his father who gave the family history as follows: All members of the family have had chills and fever several times a year, and have always taken enough quinin to “break” the chills. Therefore, probably none of the family was in good health. Early in July, 1916, all of his four children had some skin eruption which was called “mild smallpox.” The condition lasted about ten days and left pigmented spots, at present to be seen on the abdomen of this patient, the appearance of which suggests that the disease must have been some type of impetigo. The father stated that the patient had never been healthy, having had repeated attacks of malaria.

The skin trouble spoken of above, consisted of blisters which later became encrusted and subsided in ten days, leaving coffee-colored spots, the size of a finger-nail. One of these crusted areas on the left side of the chest did not heal as the others did, but became deeper and



enlarged quite rapidly. Soon a similar crusted area developed near the one on the chest, and it also increased rapidly in size. In the course of a month, these two ulcers coalesced and formed a single lesion which continued a rapid peripheral extension. About two months after the appearance of the first ulcer a similar one appeared and developed on the right buttock, and shortly after this, others of the same character appeared on the legs, while one formed on the neck. The child lost weight and had some "fever." His appetite was very poor, and he continuously grew weaker.



Fig. 1.—Appearance of amebic ulcer at the time of entrance to the hospital, showing the beef-red bottom, necrotic tissue in the center, the serpiginous outline and the jagged scalloped inner edge of the border.

*Examination.*—At the time of entrance into the hospital, the child was poorly developed, pale and emaciated. He presented a large, ulcerated lesion on the left side of the body about the size of a large saucer. This lesion was scalloped in outline and of a deep, dusky, purplish-red color. Its general shape can well be seen in the photograph (Fig. 1). The intense black of the ulcer in the photograph is due to its peculiar "raw beef" color. The center presented islands and

shreds of necrotic epithelium. The borders of the ulcer were peculiar, as can be seen in the photograph of a similar ulcer on the leg (Figs. 2 and 3). They were rolled, undermined, and slightly infiltrated. The edge next to the ulcer had an edematous, shiny, glassy appearance; it was "worm eaten" in places, and was composed of shreds of necrotic

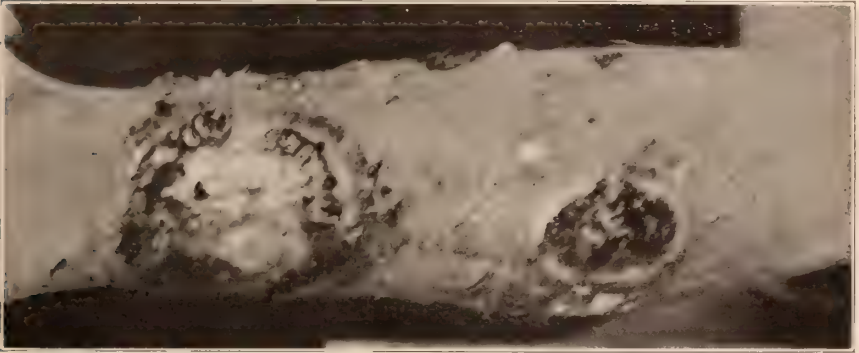


Fig. 2.—Showing the amebic ulcer of the leg. Note the same overhanging and jagged appearance of the border.

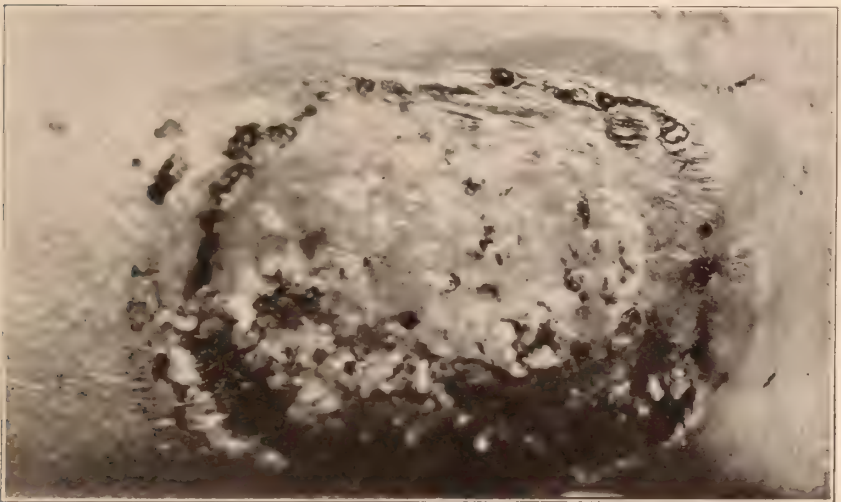


Fig. 3.—Enlarged photograph of the ulcer in Figure 2.

material. There was not much tendency to crusting on the border, but when pressed, a slight amount of thick, glairy, yellowish pus oozed out from beneath it. The border differed from that produced by the blastomycetes and from any other condition we had seen. There were no small peripheral pustules or papules of any character, and it seemed

to extend by an undermining process; a process which continued more at the expense of the cutis than the epidermis, the latter seeming to be the last to give way under the influence of the disease.

A similar ulcer, 7 cm. in diameter, with the same scalloped outline was seen over the right buttock. There were several small ulcers of the same character on the left leg and one on the right leg. Some smaller lesions on the leg gave the clue to the initial process of the condition. It seemed to begin as a small, deep-seated abscess which broke and extended peripherally, the central part becoming necrotic, while the edge extended by ulceration primarily at the expense of the cutis with an overhanging ledge of superficial necrotic cutis and epidermis. On account of starting from a central point and spreading peripherally, the ulcers were all circular, oval or scalloped in outline. They were all superficial and did not involve the underlying muscles.

At the time of entrance to the hospital a physical examination revealed a slight bronchitis and some enlargement of the liver, but the spleen could not be palpated on account of the location of the large ulcer. The temperature of the child at the time of entrance was 103 F. The blood revealed estivo-autumnal and quotidian types of malarial plasmodia with a red cell count of 5,288,000, leukocyte count of 17,200, and 70 per cent. hemoglobin.

*Treatment and Course.*—On account of the estivo-autumnal and quotidian infections, quinin hydrochlorid was given intravenously over a period of four days, in which a total of 30 grains was administered. This had no effect whatever on the temperature curve or general condition. However, the malarial organisms disappeared from the peripheral circulation.

A few days after entrance to the hospital the patient developed a diarrhea, having from two to five movements a day, the latest stools containing blood, pus and mucous. Examination of the stools at this time disclosed an ameba, the description of which will be given later.

Seven days after entering the hospital some diminution of the breath sounds was noted posteriorly on the left side and, after repeated puncture, about one half an ounce of gray pus was obtained which did not reveal tubercle bacilli by the usual staining methods. The temperature gradually rose to 104 F. The leukocyte count mounted to 33,000. Cultures from the pus in the skin lesions on the chest were negative. The sputum on repeated examinations was negative for the tubercle bacillus. The urine was negative up to this time.

Finding amebas in the stools led to a search for them in the pus of the skin ulcers and we were surprised to discover some bodies, not only in the pus from the skin lesions, but also in the fluid aspirated from the chest. Specific treatment for the evident amebiasis was delayed to allow time for the study of the amebas. In this study,

various animal inoculations and experiments were undertaken which will be described later. The amebas were also studied on the warm stage before specific medication was instituted.

On the ninth day in the hospital and two days after the amebas were found, the temperature rose to 104 degrees and the pulse to 150. Alarmed at the condition of the patient and not feeling that we could conscientiously withhold treatment any longer, one-fourth grain of emetin was given subcutaneously in the morning and one-half grain in the afternoon. The patient seemed almost moribund at this time. He



Fig. 4.—Photograph taken a few days after the administration of emetin, showing the rapid repair of the epithelium.

was passing urine and feces involuntarily. During the night his temperature surprisingly dropped to normal and the pulse and respiration also markedly changed for the better. Another one-fourth grain of emetin was given the next morning, the tenth day in the hospital. The temperature remained normal for a week, the leukocyte count dropped from 33,000 to 11,000 in four days, and the diarrhea ceased.

But, most remarkable of all, was the change in the skin lesions. The edges of all the ulcers became flattened, pus ceased to appear at this point on pressure, and almost immediately, islands of epithelium began to appear everywhere on the surface of the ulcer and spread like magic (Fig. 4). The child's appetite returned and he began to



gain weight and to take an interest in his surroundings; but this, unfortunately, was not to last, for on November 6, seven days after receiving the last dose of emetin, he developed a rise of temperature which increased about one degree a day. Emetin was again administered in large doses, both subcutaneously and intravenously, but it did not seem to exert any control over the temperature or general condition of the patient.

The ulcers again began to discharge and to spread rapidly at the borders. The leukocyte count immediately rose to 20,000. Local treatment had no effect on the lesions. Quinin, again administered, proved futile. Ipecac and various other remedies were given without avail. The child continued to become worse and lost ground slowly until on November 20, one month after his entrance to the hospital, his condition was as follows: Temperature range from 100 to 106 F.; leukocyte count 28,000; the bronchitis became diffuse and was accompanied by a continuous, aggravating cough; stools, normal in appearance and only a few round or oval, nonmotile, amebas were to be found here as well as in the sputum and the pus from the skin lesions; the urine showed a small amount of pus, some blood, and casts consisting of dense cells, together with the protoplasmic bodies in round and oval forms (cysts).

On November 22, the child seemed to develop a profound septic condition. All specific medication was stopped and stimulants were instituted. Fine râles and dulness were detected on the right side. This condition continued until his death on November 26.

#### NECROPSY

A necropsy was kindly performed by Dr. W. S. Thomas of Washington University, who gave us the following report:

*General Appearance.*—The body is that of an emaciated, white male child. There is an ulcer on the anterior surface of the neck which measures about 2.5 c.m. in diameter. Another ulcer, about 15 c.m. in diameter, occupies the anterior surface of the left side of the thorax and abdomen. There is a third ulcer on the right buttock measuring 8 c.m. in diameter. On the external surface of both legs there are ulcers about 6 by 8 c.m. in diameter. These ulcers have a dry, brownish base (potassium permanganate). The edges are rather irregular and show a slight tendency toward healing. There is no undermining, and no pus to be seen. In the centers of the ulcers on the legs and on the abdomen are islands of skin apparently covered by epithelium. The process extends only into the skin. It does not involve the muscle.

*Abdomen.*—The organs are normally disposed. The peritoneal surfaces are smooth and glistening. There are about 5 c.c. of clear fluid in the pelvic cavity. The liver extends about 3 c.m. below the ensiform.

*Thorax.*—The left lung is slightly adherent to the chest wall by fine fibrinous adhesions. The right pleural cavity is clear. There is no fluid in either cavity.

*Heart.*—The epicardial and endocardial surfaces are smooth. The chambers are partially filled with an elastic clot. The valves are thin and delicate, show no evidence of vegetations and appear competent.

*Lungs*.—The left lung: The lymph nodes at the hilus are slightly enlarged and soft. The mucous membrane of the bronchus is injected. The lower lobe of the lung is heavy and firm to the touch. The surface shows many small yellowish dots. The upper lobe is air-containing in its anterior two-thirds. The posterior third shows a consolidation similar to the lower lobe. On section, the lower lobe shows a red cut surface studded with small, grayish-yellow nodules about 2 to 3 mm. in diameter. This portion of the lung is quite airless. The upper lobe on section is pale grayish-red and air-containing. From the small bronchi in the lower lobe a yellow purulent material can be expressed.

The right lung: Voluminous, except for the posterior portion of the lung. The bronchi at the hilus show some congestion of the mucous membrane. On section the lung is air-containing except in the posterior portion of the upper and lower lobes; here there is some consolidation of tissues which, on section, are dark grayish-red.

*Spleen*.—The surface is smooth. The consistency of the organ is flabby. On section, it is a consolidated gray in color. The malpighian bodies are inconspicuous. The splenic pulp is not increased in amount.

*Stomach*.—Shows a small amount of fluid mucus. The mucous membrane appears normal.

*Duodenum*.—Shows no abnormality.

*Pancreas*.—Quite firm to the touch; otherwise shows nothing of note.

*Liver*.—The surface is smooth, the capsule is thin. The edges are slightly rounded. On section it is a pale grayish-brown color. The lobules are marked out by slightly paler peripheries. The cut surface is somewhat cloudy.

*Kidneys*.—The left kidney: The capsule strips readily, leaving a smooth, pale red surface. On section the cortex will measure 6 mm. The striae are regular. The cut surface is somewhat cloudy. The pelvis of the kidney shows very slight congestion. The aorta is smooth throughout and quite elastic.

*Bladder*.—Shows no abnormality.

*Intestines*.—The small intestine shows no abnormality. Part of the colon appears normal. The mucous membrane of the lower part of the sigmoid flexure and rectum shows a considerable number of shallow ulcers covered by a yellow membrane. These ulcers are irregular in shape and size; they vary from 3 to 8 mm. in diameter and in places coalesce. There is undermining of the edges.

*Anatomic Diagnosis*.—Ulcerative colitis. Extensive ulceration of the skin. Bronchopneumonia. Fatty degeneration of the liver. Parenchymatous degeneration of the kidneys. Malarial pigmentation of the spleen.

(Signed) W. S. THOMAS, M.D.

A search of the literature has not revealed an amebic infection of the skin. From the findings in this case and the opinions of others who have studied it with us, we concluded that we had to deal with an amebic infection of the skin, probably produced by auto-infection from the alimentary canal. The most plausible explanation seems to us to be that this patient, like many others in the district from which he came, was suffering from amebic infection of the bowel. Early in July he had an eruption of the skin which was probably a bullous impetigo. This he auto-inoculated with his amebic infected hands or nails, as it may be assumed that a child, neglected as such children are not only in this region but also in the class from which he came, had very little attention as to the care of his hands after a bowel movement.

It was then very natural for him to pick the crusts caused by the impetigo with his finger nails, thus infecting the impetigo lesions with an especially virulent and resistant ameba. Infection of the pleura probably came about through metastasis.

Not being amebiologists, and having so short a time for the study of the organism, we were greatly handicapped, as an ameba can be properly studied only by the prolonged observation of live specimens. The child was in such a critical condition that we were obliged to institute specific treatment as soon as possible. Therefore, only a few days were allowed for the study of the organism. Immediately on the administration of emetin, ameboid motion in these bodies ceased, and we were not able to study them again until a short time before the death of the child. The emetin seemed to cause the formation of the round oval or cystic forms. During the short period of time that was allowed for the study of the organism, specimens were constantly kept on the warm stage, and drawings were made of the ameboid motion as shown in Figure 5. The artist, in this drawing, watched a certain organism on the warm stage for a period of ten minutes.

#### DESCRIPTION OF THE ORGANISM

The organism consists of a spherical mass of protoplasm with a sluggish ameboid motion. It moves by the projection of blunt, finger-like processes, or pseudopodia, into which the protoplasm flows. In stained specimens, it is much smaller, ranging from 15 to 20 microns, the encysted, round or oval forms being of the same size. It seems to possess the usual morphologic characteristics of the entameba, probably the *Entameba histolytica*. The protoplasm is rather coarsely granular in the older forms, clear in the younger and in the encysted forms. The cytoplasm is plainly composed of an ectoplasm and an endoplasm.

The ectoplasm is refractory and comprises about one third of the whole. In moving forms it is gelatinous or glassy in places, containing some form of granules which are visible under the high power.

The endoplasm is two thirds of the structure and is composed of a fine reticular framework through which flows a granular material coarser than that of the ectoplasm. The endoplasm contains debris and, sometimes, chromatin clumps.

The nucleus of the organism is contained in the endoplasm, and is about from 5 to 7 microns in diameter, round or oval in outline, with an apparently distinct membrane and a centriole with a clear space about it. Chromatin, heaped in places, occurs about the inner side in the nuclear membrane.



Fig. 5.—Showing the different positions of the amoeba on a warm stage during the period that the artist observed it. Amoeba taken from the pus from the skin.



The nucleus may be found in the center of the cell or to one side of the endoplasm. When the organism is in motion this nucleus may disappear or become shadowed. Red cells, and probably some bacteria, have been seen in the endoplasm. Two vacuoles may occur; not more

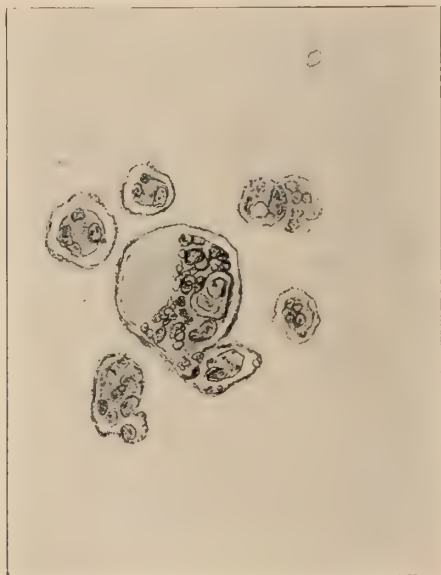


Fig. 6.—Another form of the ameba in the pus from the skin, seen by the artist at the same time as the one in Figure 5. Endoplasm contains a nucleus, red blood cells, pigment and other detritus; *a*, nucleus; *b*, red cells and detritus.

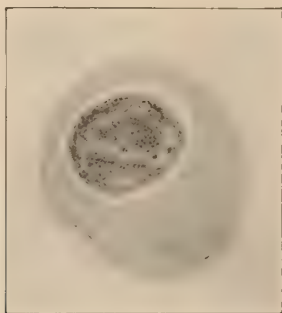


Fig. 7.—Form of ameba as seen in the smears from the pus.

than this number have been seen. The organism is but slowly motile. The encysted forms are round or oval with a double contour wall or gelatinous membrane, containing homogeneous, more or less clear, protoplasm, the nucleus being situated to one side.

We could not determine the manner of reproduction of this organism, but it seemed to us to occur by gemmation. Unfortunately, a classification of the organism could not be made. We were not sufficiently informed on the subject to attempt a classification. The case occurred at a time when those able to assist us were out of the city, and we were therefore unable to obtain any assistance in the classification. However, one can readily conclude, from the description given above, that these protoplasmic bodies were entamebas of a virulent, parasitic and pathogenic activity. Their slow motion and hard, dense

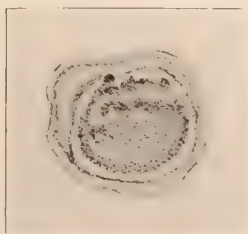


Fig. 8.—Form of amebas as seen in the smears from the pus.



Fig. 9.—Form of ameba as seen in the smears from the pus.

protoplasm, together with their lack of constant vacuolation, as will be seen from the histologic study, convinces one of their parasitic action. The study of the motile forms was made mostly from the pus in the skin lesions and also from the feces. The organism was identically the same from both sources. Also, one stage of motile form was found in the pus from the pleural cavity.

#### ANIMAL INOCULATIONS

Pus from the chest wall was injected intravenously, subcutaneously and intraperitoneally into three rabbits and three guinea-pigs without apparent result. Three rabbits, three rats and three guinea-pigs were

similarly inoculated with pus from the skin — also without any apparent effect upon the animals. Three young kittens were fed with warm milk in which had been stirred a small amount of pus from the skin lesions and a small amount of infected feces. A fourth cat received some of the pus from the skin lesions in the sigmoid by injection. In none of these animals were there ever any symptoms of diarrhea or amebic infection. These animal experiments, however, were performed when there seemed to be a great preponderance of motile organisms in the pus and feces, which might account for our failure, as, according to the studies of Schaudinn, confirmed by Craig, the encysted or cystic forms are best adapted for animal inoculation. These

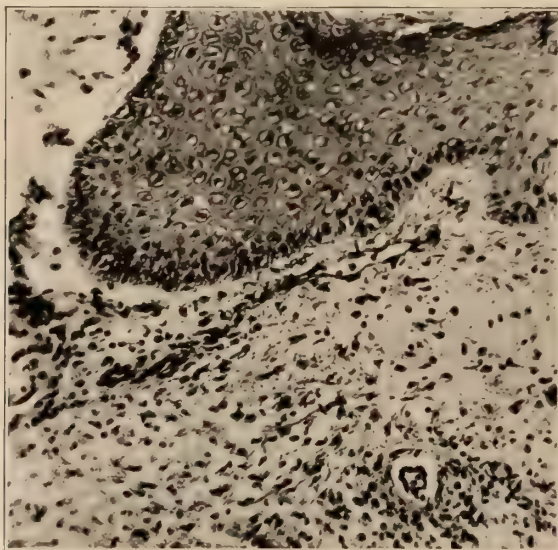


Fig. 10.—Photomicrograph showing upper part of cutis with dilated lymph spaces, a large swollen peg of the epidermis and cell infiltration of the cutis. Stained with polychrome-methylene blue.

forms seemed to pass through the stomach more readily without being destroyed than did the motile forms. Young cats are also said by the foregoing writers to be the best animal for such investigations.

#### HISTOPATHOLOGY OF THE SKIN LESIONS

The parasite is essentially a subepidermic one. In other words, its habitat is the tissues of the cutis. Therefore, one can readily see that it is necessary for it to be inoculated under the epidermis or through the broken epidermis into the cutis, such as would occur by the hands or finger nails through an impetigo lesion. All of the changes in the epidermis are secondary to those in the cutis. We therefore find in

the epidermis the usual appearance seen over an inflamed, succulent cutis. First, we have the evidence of hypernutrition and edema, the edema being both inter- and intra-cellular in character. The cells in some areas are quite ballooned and show the beginning here and there of colliquation and an attempt at vesicle formation. Mitosis can be seen occasionally with some marked down growth and clubbing of the

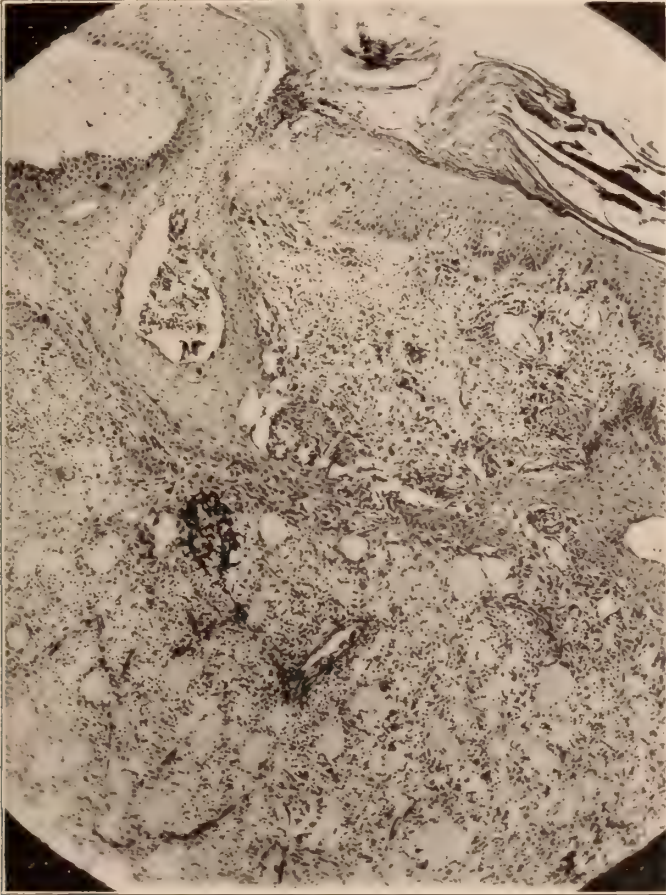


Fig. 11.—Photomicrograph with the low power showing the diffuse cell infiltration and the dilated lymph spaces of the cutis, and the swollen epidermis Polychrome-methylene blue stain.

interpapillary rete pegs. These pegs push themselves into the succulent edematous cutis, meeting very little resistance until they attain a certain depth when they become markedly clubbed and are pushed together into irregularly shaped masses. The horny layer is waved and normal. The granular layer seems to be deepened in places. The



epidermis retains its contiguity until it is undermined or excavated by the changes produced by the ameba in the cutis, when it falls into the pit thus formed, as it were, and becomes shredded and degenerated together with the tissues under it and disappears into the ulcer. It is really quite striking to observe with what tenacity the epidermis persists over a cutis almost completely necrotic in its upper portion.

The changes in the cutis are striking and quite different from any other sections we have ever examined. The whole cutis is markedly edematous, especially the part lying between the sweat coils and the epidermis. Large, gaping holes are seen which prove to be dilated lymph vessels and spaces. Clumps of cells fill, or partially fill, these spaces or are grouped about them. The section has a glassy, hyaline look and the collagen runs in stiff and swollen bundles—in plate-like sheets. The vessels are comparatively slightly changed; more cells mark the channels of the capillaries which are dilated. Large, oval, round, or irregular clumps of protoplasm are seen, sometimes several in a field. They are much larger than any cells, ranging from 20 to 40 microns in diameter. They are to be found most frequently in the advancing portion of the diseased areas.

A certain portion of the sections shows the final step of the process: the massing of cells, breaking up of the collagen and connective tissue, melting away of the elastic tissue, the advent of pus cells, the formation of an ulcer and necrosis of the tissue. In this mass of cells and detritus, in some sections—not many—large, refractile, round or oval bodies can be seen (Fig. 12). They are from 20 to 40 microns in diameter and stain very poorly, and are the encysted forms of the amebas. The sections are curious and unique, and, to a dermato-pathologist, who usually attempts to differentiate cells by tinctorial dyes, they are a puzzle of intense interest.

The amebas must secrete or excrete a toxin with certain definite chemical affinities as the histologic changes cannot be explained on a physical basis nor through the symbiotic action of accompanying bacteria. No bacteria were found in the epidermis or cutis.

Certain writers have suggested that the pathogenic amebae must emit or form a toxin, but this has not been proved scientifically. The histologic picture in its relation to an ameba well isolated in the tissues, is a strong point in the confirmation of the existence of a toxin emanating from the invading parasite.

The resistant, hard, glassy ectoplasm flows with finger-like processes into the intercellular spaces and forces itself around into those regions in the tissue where it can best carry on its life cycle. The pathogenic ameba is able, through its hard, glassy ectoplasm, to force its way between the cells of the intestinal mucosa into the succulent submucosa.

This physical act can hardly be performed on the intact epidermis, as the horny plates would be impenetrable by this organism. After an impetigo or any disease or physical act which would raise or destroy the horny protective coating of the skin, the epidermis would then present almost as favorable a soil for the implantation of a parasitic ameba as the mucosa, such as probably occurred in this case by fecal infected nails or fingers.

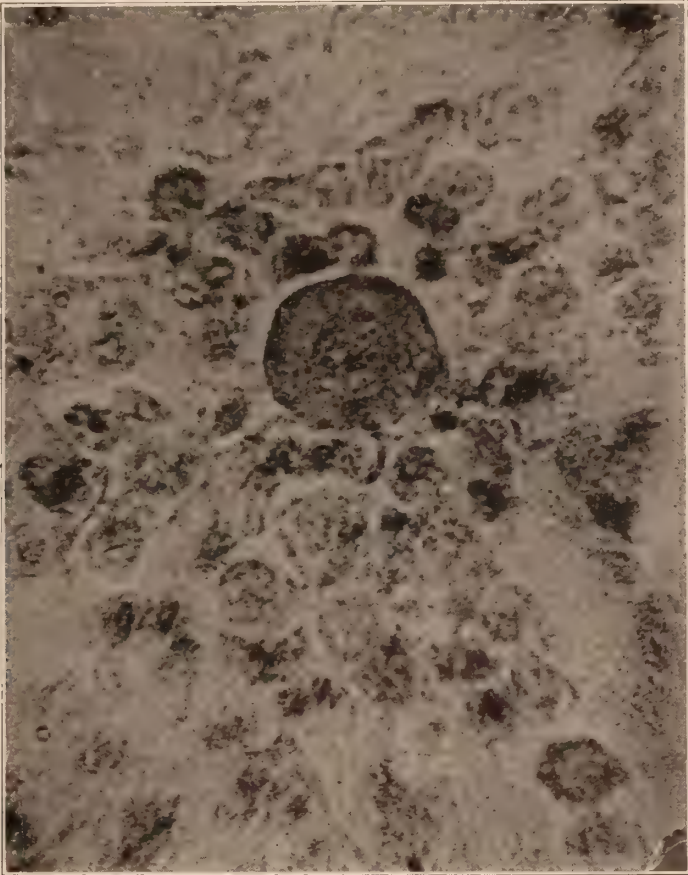


Fig. 12.—Photomicrograph with higher power showing encysted form of ameba from the cell detritus or necrotic area in a section from the skin. Polychrome-methylene blue stain.

The soil did not prove to be as suitable for the growth of the ameba as that of the gut, however, as not as many organisms are seen in the section from the skin as are seen in those from the gut. They are not in such distant groups, nor are they so numerous. The ameba implanted on the swollen, penetrable, moist, denuded epidermis through

its hard, glassy ectoplasm works its way through the epidermis into the nutritious cutis. When it arrives there, certain chemical effects are seen. The ameba must emit or form a certain chemical body or certain chemical bodies which, carried along the lymphatic spaces, immediately attract an outflow of lymph from the capillaries, causing an obvious edema in the vicinity. Hypernutrition then exists and an increase of all the cellular elements of the part results.

The connective tissue cells become swollen and drink up the polychrome methylene blue. They become vacuolated and form many large "foam cells" (Schaumzellen). The cells about the capillaries and vessels increase in number, but there is no specific effect on the vessels anywhere.

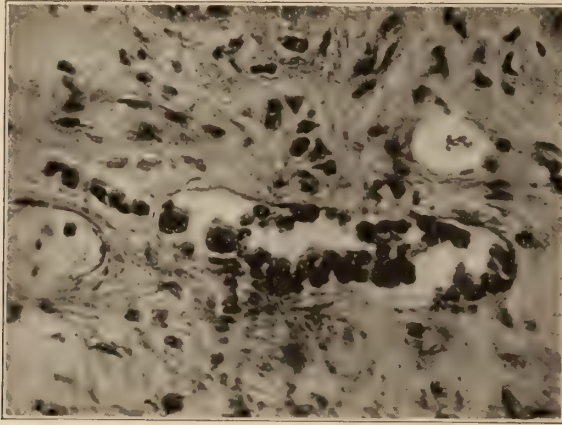


Fig. 13.—Photomicrograph of lymphatic space in upper part of cutis, filled with the large lymphoid cells.

One of the earliest changes is the formation of large lymphoid cells from the lymphoid collections about the lymph channels and spaces. This reaction seems to us to be specific and unique: A lymph space is dilated by the afflux of a rich, serous edema which has a peculiar stimulating effect on the clumps of lymphoid cells lying normally about the lymph spaces. They increase in number and size, and form large cells with an enormous nuclear body filled with irregular clumps of chromatin. The nucleus stains a purplish blue with polychrome methylene blue and glycerin-ether. The body, or cell spongio-plasm, consists of a narrow mass, partly surrounding the nucleus and stains a reddish-blue-purple with ragged, frayed outlines. As these cells increase in number, they go in the direction of least resistance and jut into the open lymph spaces or channels, in some instances completely filling them. These spaces often look like a basket filled with a bunch of large grapes — like large blue balls (Fig. 13).



All steps of this process can be seen — from the formation of a small group of such cells about one corner of a lymph space to the jutting into the lumen of a larger group, with partial or complete obstruction of the space. When a group has reached a certain stage, through some influence, they, in some instances, seem to fuse or flow together, forming not a typical giant cell, but a fused cell. The cells lose their outlines and form homogeneous unicolored masses of various sizes. The large lymphoid cells are mostly seen away from necrotic areas in the advancing process.

The connective tissue cells fuse also, and such masses, taking the stain normally, can be seen in the advancing edge or near the necrotic areas. The fused cells are difficult to differentiate from the amebas or rather, the amebas from them.

A few typical plasma cells may be seen, but these are only comparatively few. One is often tempted to classify some of the peculiar lymphoid cells above described as plasma cells on account of their similarity in tinctorial affinities and physical outlines. But one familiar with dermato-pathology could not so classify them. They differ in size, have not the ballooned outline, are much larger, the nuclear chromatin is more marked, and their outlines are jagged — not beautifully symmetrical like the "Unna cell." Some of the smaller lymphoid cells might pass as a type of Unna's "daughter-plasma-cell." These lymphoid cells are not seen in the patulous, dilated vessels and do not come from the blood stream, but from the fixed cells of the part.

Mast cells are not infrequent, but are not typical.

The cellular elements increase, stimulated by the various chemical and physical factors of this form of inflammation set in operation by the parasite. The elastic tissue begins to disappear — melt away — the collagen becomes stiff, hard and glassy looking, fusion of cells occurs here and there, massing and necrosis begins, and then, and not until then, does the pus, or polymorphonuclear, cell appear. This has been noted and remarked on by various writers in describing the histopathology of amebic infections of the gut and liver. These cells appear, evidently attracted by the chemical affinities of dying tissues as seen in many other processes in the skin. As the necrotic process extends, the epidermis, cut off from its proper nutrition, degenerates and falls into the ulcer. Thus the raised, undermined, ragged and characteristic border of the ulcer is understood. Pus that exudes from under this shelf-like projection of epidermis contains the ameba in all its various forms. The ameba is difficult to differentiate in the sections. It does not stain specifically, but tinctorially stains as a tissue cell, except in its encysted forms. Therefore the protoplasm of the parasite appears



as a cell of the part. With the high power, four forms of large protoplasmic masses can be seen which, on critical study, prove to be:

1. Fused lymphoid cell masses.
2. Fused connective tissue cell masses.
3. Atypical giant cells from either of the above sources.
4. Amebas.

The amebas are large, from three to six times the size of the red blood cells, the size being dependent on the stage of their cycle. They contain one large, oval or round nucleus, usually with two clumps of nuclear chromatin. The ectoplasm and endoplasm cannot usually be differentiated except in the cystic forms which occur only in the pus. Therefore, the cell protoplasm stains best with polychrome methylene blue, neutral orcein, or glycerin-ether, a reddish purple. It gives the

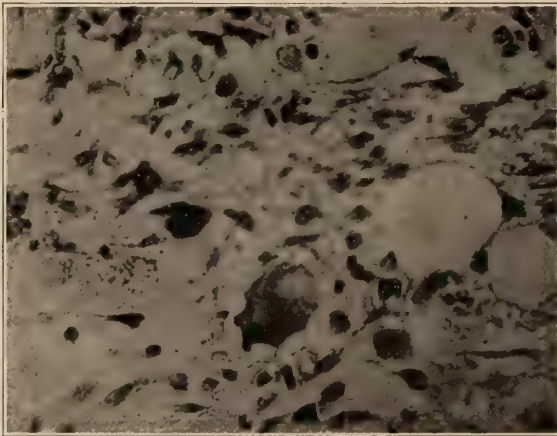


Fig. 14.—Photomicrograph of a section of the skin taken with the high power, showing an ameba with dilated lymph spaces about it and a few large lymphoid cells. The ameba looks like a large bug in the lower part of the picture owing to the fact that the protoplasm was fixed immediately after the section was removed from the ulcer, the pseudopodia going in several directions. Polychrome-methylene blue stain.

appearance of reticulation or of a granular protoplasm and may contain nuclei of other cells and unknown clumps of matter. An indistinct clear space or vacuole can be seen in some forms (Fig. 14).

The sections studied were taken from the living subject and immediately fixed by various methods. Therefore, the amebas are caught in grotesque and divergent shapes: Some with long pseudopodia out; some vegetative forms with eight nuclei as the usual count; some smaller forms, daughter cells; some degenerating; some with vacuoles and some without; some encysted, and some with cell detritus, showing their parasitic nature.

The encysted forms were seen only in the necrotic areas and were very scarce. In these, the clear, glassy, homogeneous ectoplasm may be clearly differentiated from the granular endoplasm. The parasite is almost perfectly round in outline and measures about from 30 to 40 microns. It stands out beautifully from the surrounding cells and detritus.

This case can be isolated as unique. It seems to us that we have quite conclusively proved its amebic etiology. Other such cases may exist, and we believe we have seen others and classified them under blastomycetic dermatitis, or as ulcers of unknown origin. The disease has such characteristic clinical symptoms we believe it can be easily recognized.

The clinical features of its recognition are as follows:

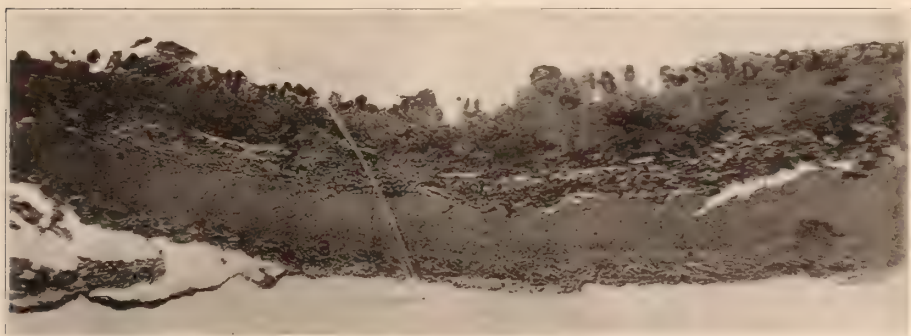


Fig. 15.—Photomicrograph with lower power from a section of the ulcerated portion of the gut.

1. An ulcer or ecthyma-like lesion on any portion of the body. An ecthyma-like lesion may be the earliest lesion, as we will show later, but there must be a history of trauma or previous cutaneous disease.

2. The ulcer (*a*) when established, is painful. (*b*) Outlines are jagged and irregular. (*c*) Base is raw-beef red, glistening, with débris and islets of epithelium, shreds of pus and necrotic tissue. (*d*) Edges, sharp, raised, rolled above the surface of healthy skin for 3-5 mm., ragged, undermined for 3-8 mm., composed of overhanging epidermis and, maybe, shreds of superficial cutis, glairy pus in small droplets can be squeezed out from under the edge onto the floor of the ulcer. This is very diagnostic, this and the peculiar overhanging or undermined edge. (*e*) There are no pustules or lesions on the outlying periphery as in blastomycosis. (*f*) Appearance is dirty and the odor foul.

3. Discovery, by the usual methods, of slowly motile, ameboid, protoplasmic bodies on a warm stage from the pus squeezed out at the edge of the ulcer.

4. Patient may have amebic infection of the gut but, of course, this is not necessary. The same reasoning as to etiology would apply here as in tuberculosis of the skin.

5. If the case be a severe one rise of temperature and leukocytosis would accompany the lesions.

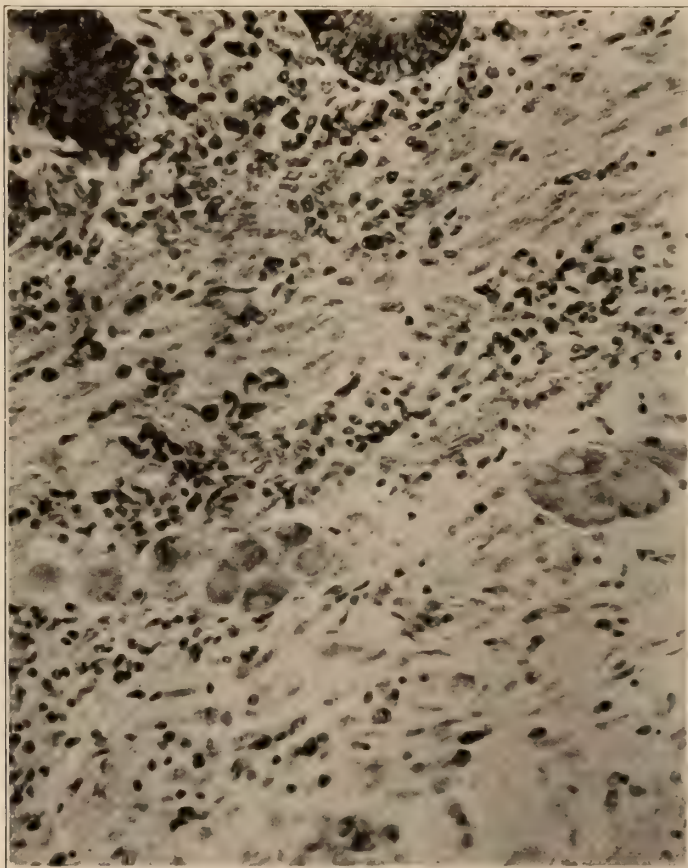


Fig. 16.—Photomicrograph from the gut showing the clumps of amebas in the submucosa.

The clinical picture is entirely distinct and characteristic and differentiates amebiasis cutis from anything else.

Histopathologically, there are no papillary overgrowths of epidermis nor intra-epidermic abscesses. The disease is primarily and wholly one of the cutis and not of the epidermis. The characteristic and diagnostic histologic picture may be stated as follows:

1. Wide primary edema.
2. Dilatation of capillaries and slight increase of cells about them and the vessels. No specific change in the vessels.
3. Striking dilatation of the lymph spaces and vessels.
4. Formation of very large round cells (lymphoid), about one angle of the lymph spaces with the spaces filled, or partially filled, with the cells fused or in masses. A striking and obvious picture.
5. Increase in size and number of the connective tissue cells with fusion of these cells.



Fig. 17.—Photograph of Case 2, P. W., shortly after entering the hospital. Notice the same peculiar borders.

6. No specific degeneration of any cells nor effect on any anatomic structure except lymphoid groups and their involvement of lymph spaces.

7. Amebic bodies.

8. Secondary degeneration and death of cutis where cell masses become too dense, causing necrosis with final destruction of the epidermis over this area.

The following case is placed with the above on account of its clinical similarity. The patient, P. W., a man of 34, came to the



Barnard Free Skin and Cancer Hospital in October, 1909, with an eruption covering the area as seen by the photograph (Fig. 17). The history of this case is rather curious. We first thought from the characteristics of the ulcer that we had to deal with a case of blastomycosis cutis, as the clinical appearance of the infected area presented more of the characteristics of that disease than of any other we knew of then.

The notes made at that time were as follows: The patient's trouble began about six years ago as a lump in the axilla which "was formed like a boil." It was "of a blackish purple color." Two more of these "boils" appeared on the lower abdomen just to the right of the median line and below the navel. No pain occurred until these lesions "broke" three weeks after their appearance, with a bloody, seropurulent discharge. The lesions spread by what the patient called a "rolling away of the skin edge." The pain was constant, but he does not remember any fever at this time. A cancer quack two years ago applied black paste with harmful results.

On entering the hospital the patient presented a large, sharply defined ulcer over the lower half of the abdomen with a large one in the axilla. These spread in spite of all treatment until the one on the abdomen occupied the area as seen in the photograph (Fig. 17).

The bottom of the ulcer was ill-smelling and foul, and was covered with a detritus of pus and necrotic tissue, with here and there a straggling island of regenerating epithelium. The edges, which were rolled and undermined, were the point of greatest interest. There were no papules or pustules as seen in blastomycotic dermatitis and pus squeezed from under the undermined border did not contain the blastomyces. Stained and fresh preparations under the cover glass, cultural methods and sections of the skin revealed none of these organisms. The coccidiiform type as described by Rixford and Gilchrist was thought of and searched for without results.

The peculiar overhanging, undermined border of this ulcer contained no small pustules which confused us as to the classification of the condition, and it was not until we had studied the case of amebic infection of the skin in L. H., above discussed, that we could attempt to classify it; as soon as we had seen the latter, however, the classification seemed clear.

The patient was in the hospital from October, 1909, to July, 1910, and it is needless to say that every means was used to arrive at the diagnosis. In July he returned to his home and in a short time died of exhaustion.

He presented no symptoms of diarrhea or amebic infection of the bowel. He ran a slight temperature as one would expect from such an infection.

Curiously enough, about one year ago one of us happened to meet a physician who inquired after the patient, although he was not the one who had referred the case to the hospital. He stated that this man had been a patient of his in the Philippines when he had charge of an army hospital there, and that the patient had at that time a severe case of amebic dysentery from which he slowly recovered.

Previous to the conversation with this physician and after the case of amebic infection of L. H., we had tentatively classified the case of P. W. as another of amebic infection of the skin, and we submit it herewith as probably a second case with characteristics similar to that of the boy.



Fig. 18.—Photograph taken from the third case, S. S., on entering the hospital showing the peculiar ecthymatous and furunculous lesions on the back of the hand with scar tissue in the center.

S. S., aged 29, came to the Barnard Free Skin and Cancer Hospital on Feb. 26, 1917, and was discharged March 16, 1917. He came from the same district in Missouri that the boy, L. H., came from. There is nothing important in either his family history or previous history except that he had had "chills and fever" several times with no history of diarrhea or dysentery that we could elicit, although the man was a stupid peasant, and his personal observations could not be relied on.

The stools, however, showed no pathogenic amebas. It was stated that about two and one half years ago, the patient noticed a "blue-black line on the skin of the back of his right hand." This blue line

or mark became somewhat swollen and painful, and the lesion finally opened and discharged a purulent matter. New "pimples" soon developed around the lesion to open subsequently and discharge while the lesion on the hand during this time became swollen and painful for a short time until it finally began to subside and almost completely involute.

A lot of the swelling and tenderness that the patient complained of was probably due to the heroic treatment that he experienced at the

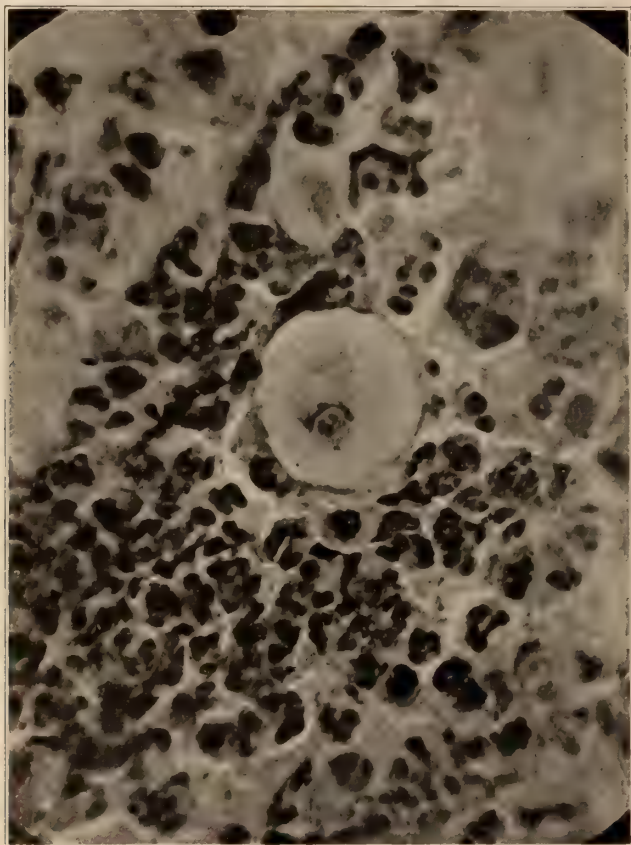


Fig. 19.—Photomicrograph of stained section of the pus from Case 3, S. S., showing a large cystic ameba in the center of the picture. Polychrome-methylene blue stain.

hands of several doctors who attended him. The entire posterior surface of the right hand, from the knuckles to the wrist, was involved. There was a large scar in the center of this area around the edge of which a few pustules, much larger and deeper than those seen in blastomycosis cutis, were found. At one point there was a large

swelling, fully one centimeter in diameter, which was red and very tender. Between the scar and the advancing border there was an almost verrucous-like thickening of the epidermis from which, on tearing and squeezing the lesion, exuded large droplets of pus (Fig. 18).

Examination of this pus revealed bodies exactly similar to those previously seen in the case of L. H., most of them being in the cystic stage. Some of these bodies were ameboid on a warm stage, moving very slowly with pseudopodia, as described in the first case. No animal experiments were made with these organisms, and it was impossible to obtain a skin section because of the strenuous objections of the patient. The pus, however, was very carefully studied from day to day, and the regularity of the appearance of these peculiar bodies was a confirmation of the classification as a form of ameba, probably of the same type as those seen in the earlier case (Fig. 19).

The clinical characteristics of this form of amebic infection were not so characteristic, as it could be mistaken for a slow, nonvirulent type of tuberculosis verrucosa cutis or a chronic staphylococcic dermatitis, with epidermic thickening. Still, when one closely analyzes and compares the clinical appearance of both cases, one is struck with the chronicity, the scarring in the center, the appearance and peripheral distribution of the initial lesion which appears in the form of a slightly raised, indolent, circumscribed area of skin of a purplish red color, ranging in size from 3 to 8 mm.

A slight puncture releases a glairy, mucopurulent discharge. This lesion, when emptied, heals, leaving a scar. Smaller follicular pustules may occur from secondary staphylococcic infection which must not be confused with the disease process proper, a small subepidermic abscess produced by the pathogenic ameba.

This patient may have infected himself from infected fingers or from his knife blade in opening a pustule or some other simple lesion.

Before we could finish the study of the case, the patient suddenly returned home. The physician who had sent him to us was requested to give him hypodermic injections of emetin which seemed to cure the lesion, according to the physician's statement, very rapidly.

#### CONCLUSION

We believe from the study of these cases, which we must admit are due to the pathogenic action of an ameba, that this organism may produce lesions on the skin in two forms, the fundamental lesion of both being the destruction of the upper succulent part of the cutis by the ameba. The two forms may be: first, a continuous, progressive, open, frank ulceration as in the first two cases, or, second, circumscribed amebic abscesses as were seen in the third case. There may be, of course, variant types of these two forms.



# PRIMARY ACTINOMYCOSIS OF THE SKIN: REPORT OF A CASE INVOLVING THE HAND

ISAAC R. PELS, M.D.

BALTIMORE

## INTRODUCTION

Attention is called to this case because we believe it to be somewhat unusual in its clinical course, because the area of involvement was quite limited, and, lastly, because the infection was apparently received through a wound and not from the very frequent source of primary mucous membrane infection.

We read that actinomycosis results most frequently from a spreading infection through the mucous membranes, and eventually through hematogenous or lymphatic channels to the subsequently involved viscera; and that primary involvement of the skin is comparatively rare. According to Merian,<sup>1</sup> about twenty-five cases of primary infection of the skin had been reported up to 1912. This author reported the case of a small lesion on the left nasolabial fold of a 19-year-old girl from Unna's clinic. The girl was subject to epileptiform seizures, and as suggested by Merian, may have become infected while lying on the ground, possibly from a splinter. The diagnosis was established only after ablation of the tumor, 5 mm. in diameter, subjected to histologic examination. The photomicrograph showed three ray fungi deep in the section. In McWilliam's<sup>2</sup> patient the phalanx of a finger was the seat of disease; but the ray fungus was found on histologic examination in the soft parts and not in the bone, although the diagnosis, supported by roentgenograph, was made of a cyst of the bone.

In this connection also the observations of F. T. Lord<sup>3</sup> are important. He stated that "the constancy with which actinomycetes can be demonstrated in the contents of carious teeth and the crypts of the tonsil in patients without actinomycosis indicate the buccal cavity as a source of the disease." This observation is of significance in relation to the apparent mode of infection of the case herewith presented.

The case about to be reported is not unusual except in so far as the history and clinical course might be considered somewhat out of the ordinary. The diagnosis offered some difficulties at first, especially because the patient lived at a considerable distance and could

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1. Merian, Louis: *Dermat. Wchnschr.*, 1912, 54, No. 3, p. 45.

2. McWilliams, C. A.: *Annals of Surgery*, 1917, 66:177.

3. Lord, F. T.: *J. A. M. A.*, 1910, 55:1261.

not be studied under the most favorable circumstances. However, to the fairly expert or trained observer the condition was not at all suggestive of the familiar diseases, such as syphilis, tuberculosis, sporotrichosis, blastomycosis, trichophytosis or granuloma pyogenicum; yet we were promptly forced to conclude that it was a granuloma of infectious origin. We did not consider actinomycosis until we saw the ray fungus in fresh preparations made from evacuated pockets of subepidermal pus, and it was then only that we were impressed by the presence of the tiny, sandy, grayish yellow granules in the seropurulent drainage. Nor were we assisted by the picture of the biopsy specimen, which disclosed merely a rather atypical granuloma, having dilated blood spaces, new vessels and many plasma cells, in no distinctive arrangement or relationship and with no outstanding features. It was probable that this section was not cut to sufficient depth to show the ray fungus in the subepidermal layers where it is usually found with comparative ease; or, the section may not have reached tissue which was involved early.

#### REPORT OF CASE

The patient, aged 72, born and living in Maryland, a farmer and lumber dealer by occupation, was first seen March 7, 1919. His history was quite negative, even with regard to the possibility of contagion from any member of his household or the presence of a related or similar disease. He used tobacco for chewing only. He never had the habit of chewing grains or straw.

The disease on his right had appeared about eighteen months before we saw him. The hand was injured when he cranked a gasoline engine while on a boat trip. The lever broke, causing a lacerated wound on the right palm, about 1½ inches long. As on previous occasions of injury, he applied chewing tobacco, taken directly from his mouth, to the wound for a period of from seven to eight hours, until he arrived home. No other treatment was used, but despite the fact that the wound healed promptly, the healing was not complete. Two or three months following the accident, there appeared small blisters and abscesses, also several lumps, at the edge of the wound where it approximated the dorsum of the hand between thumb and index finger. Despite prompt incisions by a physician this condition of nodules and abscesses spread, accompanied by inflammation so that a considerable portion of the dorsum was involved, the palmar area, meantime, healing up. The only symptom was soreness to touch during active use of the hand. No other treatment was undertaken, and the condition became gradually worse.

When he was examined it was found that the disease was confined entirely to the dorsum of the hand. The palm showed a well formed linear scar, 6 cm. long, together with a moderate contracture. There was limitation of both active and passive movements of the fingers, accompanied by pain. The dorsal involvement was approximately 10 by 12 cm., extending on the thumb and on the third finger, reaching to the wrist and almost to the external aspect of the hand (as shown in the photograph). It was fairly well defined, purplish red in color,

with brownish pigmentation (corresponding to the same on the left hand). The surface was irregularly nodular, raised about 0.5 cm. in some places, crusted, and showed ill-defined scarring, especially in the area between thumb and index finger where the scarring was conspicuously reticulated. The edges were sloping and irregular. There were numerous small subepidermal and superficial abscesses, some shining through a glossy covering and some discharging through crater-like outlets having rather sharply defined edges. There was no



Fig. 1.—Right hand before treatment.

marked loss of hair; and the thin brownish-yellow crusting was also ill-defined and not uniform.

On palpation there was considerable infiltration; but the tissues felt somewhat soft and boggy, although there was no fluctuation except in the enclosed abscesses. The entire skin was not freely movable over the deeper tissues, and there was considerable tenderness. Lymphangitis was not seen; the entire arm appeared to be normal and lymph glands were not felt in the epitrochlear or axillary regions; nor were there any other findings varying from the normal.

The urine was quite negative; the blood picture was practically normal as follows:

Red blood cells, 5,920,000; hemoglobin, 102 per cent.; (Sahli) checked by three instruments; white blood cells, 8,000.

	Number	Per Cent.
Polymorphonuclear neutrophils.....	184	73.6
Polymorphonuclear eosinophils.....	1	.4
Polymorphoneuclear basophils.....	1	.4
Small mononuclears.....	50	20.0
Large mononuclears.....	14	5.6
Transitionals .....	0	0.0



Fig. 2.—Photomicrograph of the ray fungus. Fresh preparation in glycerin, showing arrangement of threads and also some clubbed ends. Unstained.

Red blood cells and platelets were normal. No abnormal cells were seen. The blood Wassermann test was not made.

A roentgenogram of the hand and wrist disclosed absolutely no bone or joint involvement. There was, however, a certain amount of limitation to active and passive flexion and extension of the fingers, due most probably to the swelling and infiltration and especially to the large cicatrix in the palm. The scar had caused a small degree of contracture, involving the fascia.





Fig. 3.—Low power; section through diseased area approximating on healthy tissue (not shown). The granutoma-like character is well seen.

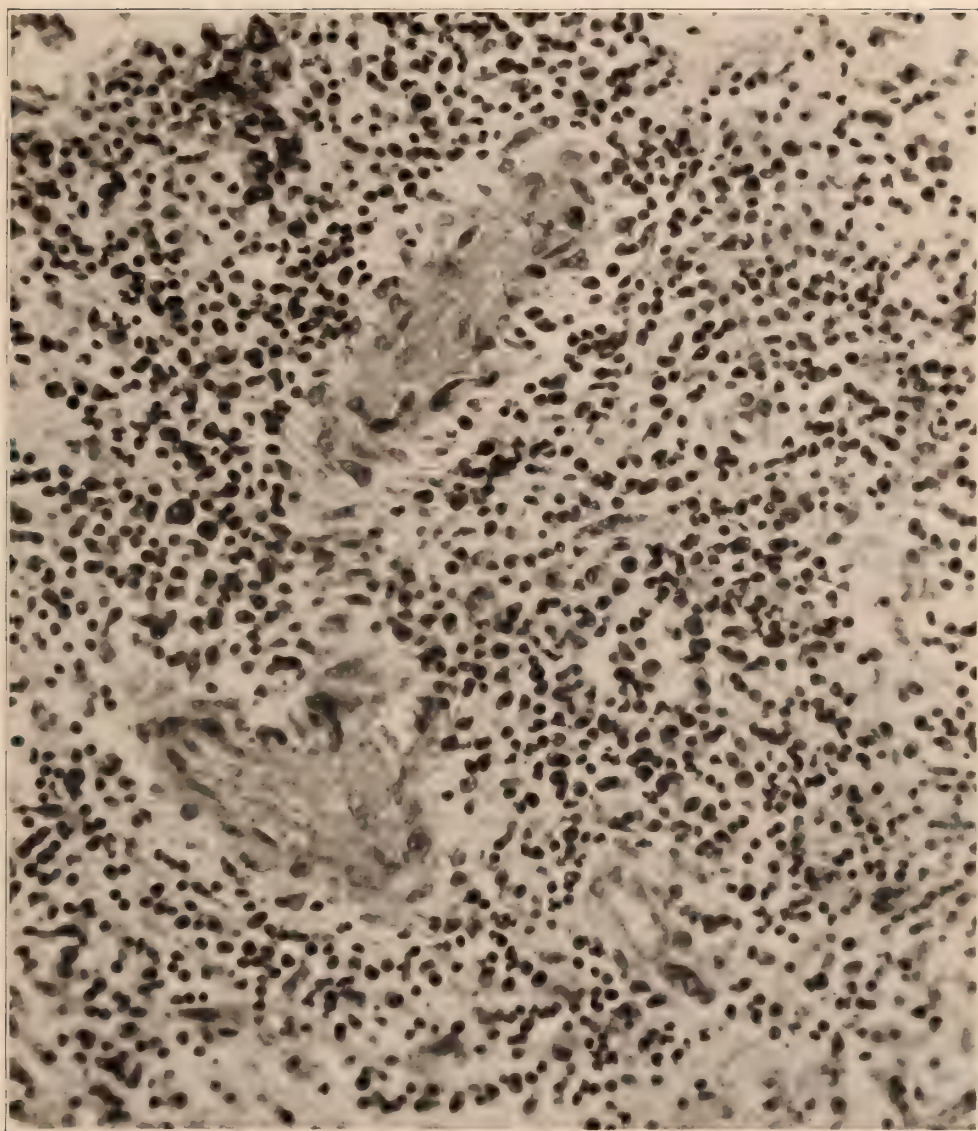


Fig. 4.—High power; area of infiltration showing two large dilated blood vessels containing red blood cells. The character of the infiltrating cells is best seen here.



## HISTOPATHOLOGY

The changes in the tissue may be summed up as follows, the accompanying photomicrographs giving an adequate presentation:

**Rete layer:** Parakeratosis, thickening, irregularity and considerable elongation of the pegs; some edema and moderate infiltration of round cells.

**Corium:** Increase in connective tissue fibers, edema; dilatation of vessels and of lymph spaces throughout, even in the interpapillary spaces; considerable congestion in the capillaries, many being loaded with red blood cells; formation of new blood vessels, epithelioid cells, enormous infiltration of round cells; some polymorphonuclears; some pigment-bearing cells; and a conspicuous number of plasma cells—all, however, in no distinctive arrangement. In general, it was the picture of a granuloma with nothing particularly characteristic.

## COMMENT

Summed up, the chief points of interest are: the apparent manner of infection; namely, the treatment of a lacerated wound of the palm with chewing tobacco removed from the mouth, and held in place for a comparatively long period; the almost complete and prompt healing of the wound; and the subsequent formation of abscesses and nodules at the edge, approximating on healthy (?) tissues. The tendency to remain localized for a comparatively long period of time, was also somewhat unusual.

## TREATMENT

The patient was prescribed increasing doses of iodid of potash; the abscesses were incised and cleaned out; and wet dressings of liquor alumnii acetatis (N. F.), 25 per cent. concentration were used. These were alternated with 10 per cent. ammoniated mercury ointment.

Roentgen radiation was given in measured doses of a total of 28 H units with Coolidge tube on three occasions, extending over a period of 57 days. The following technic was employed: A ray of 9-10 B, of  $7\frac{1}{2}$  inches spark gap, passed through 0.5 mm. aluminum filter at 8 inches target distance, running 3.5 milliamperes through the tube and through the Coolidge transformer. The total time was thirty-one minutes.

There was an improvement of about 50 per cent. after the second treatment, but the ray fungus was still demonstrable. When seen before the third treatment, the hand was almost well; there were half a dozen nodules from which a small amount of pus oozed after incision, but no granules were seen microscopically. Ninety days after the initial treatment the hand was clinically well except for moderate edema and some crusting following the expected severe

reaction from radiation. There was still some limitation of motion from cicatrices of the palm; some slight tenderness, but no abscesses or discharge.

Persistent attempts to cultivate the organism were made without success, although anaerobic cultivation was not tried, except with stab cultures. However, the organism was so easily demonstrated that it was considered superfluous for our purpose to go on with elaborate bacteriologic studies.

I desire to express my thanks to Mr. Herman Schapiro for making the photomicrographs.

1011 North Charles Street.



## THE VENEREAL DISEASE CAMPAIGN IN RETROSPECT \*

H. G. IRVINE, M.D.

Assistant Professor of Dermatology and Syphilology, University of Minnesota  
Medical School; Director of the Division of Venereal Diseases,  
Minnesota State Board of Health

MINNEAPOLIS

It is now approximately two years since the inauguration of the Public Health campaign for the control of syphilis and gonorrhea. At first, all efforts centered on the army, then on the army and community, and since the armistice on civilians almost entirely. The program became pretty well standardized and has been generally accepted over the country, although, as was to be expected, in different places different phases of the work were emphasized. In the beginning, many things were based almost entirely on theory. At this time it appears worth while to go over some items in the program, and to attempt to draw some conclusions as to their value.

A great deal of attention was paid by the army and navy to law enforcement as regards prostitution, with the idea that it would have a marked effect in reducing venereal disease. In a paper read before this section last year<sup>1</sup> it was my privilege to present some figures compiled in San Francisco which were suggestive of the effect of law enforcement. It is now possible to present in the accompanying table figures covering a year's time.

### EFFECT OF LAW ENFORCEMENT ON EXPOSURES AND INFECTIONS<sup>2</sup>

Month	Annual Rate for Cases of Venereal Diseases	Annual Rate for Expo- sures as Represented by Prophylactic Treatment
1917—		
October .....	167.67	826.18
November .....	75.11	497.46
December .....	84.87	426.42
1918—		
January .....	40.51	251.02
February .....	45.74	331.13
March .....	53.14	264.77
April .....	37.73	218.03
May .....	19.15	162.19
June .....	17.77	155.69
July .....	18.39	165.90
August .....	6.84	151.48

\* Read before the Seventieth Annual Session of the American Medical Association, Section on Dermatology, Atlantic City, June 9-13, 1919.

1. Irvine, H. G.: Syphilis and Venereal Diseases as a Public Health Problem, J. A. M. A. **71**:1029-1033 (Sept. 28) 1918.

2. Statistics compiled by Lieut. Allison T. French, Sanitary Corps, U. S. Army.

In October, 1917, arrangements were completed for law enforcement in San Francisco. It was started in November. The number of prophylactic treatments may be cited as the number of exposures. The effect of cleaning up the streets and closing up open houses of prostitution is apparent in the marked reduction, in November, of the rate for both prophylaxis and disease. There was a continuous downward trend during the entire year in spite of the fact that the group of men grew constantly larger by several thousand, but the effect of law enforcement is noted by the immediate and marked drop. Another observation is of more than passing interest. Out of four judges sitting in police court on a rotating service, one was particularly reluctant to deal out jail sentences. He was on the bench in October at the beginning of the work; he came on again in February and March, and again in July. It will be noted that every time he came on there was an increase in prophylactic treatments or exposures, and in the number of venereal disease cases. This table, the figures of which were compiled extremely carefully, is indicative of the effect on venereal disease of enforcement and of nonenforcement of law. It is quite obvious that with prostitution going on openly there will be more exposures, and just as with any communicable disease, the number of cases depends on the number of exposures. It is also of interest to note from this table that the amount of disease is quite constantly proportionate to the number of prophylactic treatments. This is indicative that it is rather a false premise to figure that one could disregard the number of exposures providing prophylaxis was taken. This observation was disconcerting to many army officials who saw no need of any repressive measures until they found that as the prophylactic rate for their command went up so also did the venereal disease rate.

It is now generally accepted that enforcement of law is sound public health policy so far as venereal diseases are concerned, and that no mistake was made in emphasizing this part of the program.

In connection with law enforcement has gone examination and detention or quarantine of prostitutes, and many communities have made much of this. It appears to the writer that the importance of this has been vastly overemphasized. Some boards of health have made great campaigns on this part of the program and have spent thousands of dollars on the temporary detention and treatment of prostitutes. Of course, theoretically with proper social service, each case was followed up, etc., and the woman supposedly did not go back to that life. From a practical standpoint it is quite obvious that a large part of the women who get into the courts are old and confirmed offenders. Of what great value, so far as disease is concerned, can a

few weeks' treatment be, so far as reducing disease is concerned? Comparatively few of these women have active lesions of syphilis, although many give positive Wassermanns, but nearly all have chronic gonorrhea which is not to be cured in the average time they are held. I do not mean to say that this work hasn't a value, but it should not be overestimated. Its greatest worth, as carried on at present, is as an educational demonstration of the amount of disease among these people, and of their possibilities as carriers. The point to be emphasized is not the need of treating them, but of permanently putting them out of business as the only means of curbing their danger to health. Money spent in securing and supporting some sort of reformatory where prostitutes can be sent for indeterminate sentences, receive vocational instruction, and later be placed out under parole, will result in more constructive work and be more justified. At the same time, the feeble-minded ones should be weeded out and put under permanent custodial care. It seems logical, therefore, that the medical care and quarantine of prostitutes should be only incidental and that money should be spent on the really constructive work rather than on the palliative.

Virtually every state has adopted some system of reporting. In fact, it was necessary that they do this in order to receive their share of federal money. It is quite obvious that in most states reports are not at all indicative of the amount of disease. Lack of reports means a tendency on the part of the medical profession to disregard law; to fail to grasp the social side of medicine and to a certain extent a direct lack of cooperation in carrying on an important national movement. From available reports, Texas appears to be the only state which has secured reasonable returns as regards numbers. From September, 1918, to February, 1919, there were 24,477 cases reported, or approximately 5,000 a month; 9,444 syphilis, 13,412 gonorrhea, and 1,621 chancroid. Minnesota has averaged a little less than 700 cases reported per month over a corresponding period.<sup>3</sup> It is interesting to observe that, according to statistics of the United States Public Health Service, of drafted men, Texas sent 11.02 per cent. venereally infected; Minnesota sent 2.31 per cent. According to these figures Texas had about five times as much disease as Minnesota, so the reporting is at least somewhat indicative of the amount of disease. Most states are running from 200 to 1,000 a month, regardless of population, and most states are showing a gradual increase. It is likely that reporting will ultimately give us some worthwhile figures. Many physicians have commented on the uselessness of handling professional prostitutes and

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3. Venereal Disease Pamphlet No. 30, issued by the Treasury Department, the United States Public Health Service.

of the need of controlling clandestine prostitutes. With proper cooperation, reporting offers a big opportunity in this connection. Most report cards have a place for reporting the source of infection. If the profession would cooperate and make a reasonable effort, the source could be reported in a large percentage of fresh cases and most state boards of health have a social service department equipped to successfully handle this problem. We have attempted to emphasize in Minnesota the importance of this work, and our social service department is handling more than a hundred cases a month from information of this type secured from report cards. Many of the older men who have not kept informed as to modern social service possibilities, fail to realize the opportunity offered through the report system to hold or return delinquent patients. Reporting is undoubtedly a necessary and valuable part of the program, but there remains a great deal of educational work to do before it will be as worth while as it ought to be.

The educational work is a valuable item; it will no doubt react on different people in different ways. On some it will have a deterrent effect and possibly prevent exposure; in others it may not deter, but may bring them to early treatment or prophylaxis, and so prevent infection. On most people it will at least have the effect of giving them an idea of the need of early, continuous and adequate treatment, and it will no doubt assist materially in getting people to take treatment and to continue it. All of the work is undoubtedly having an educational effect on the profession. Many men are paying more attention to their cases and are making a decided effort to become better informed and to give their patients better service. If the educational work as related to the venereal disease campaign is carried on along broad general lines, it will have a considerable influence in bringing communities to see the great value of proper recreational facilities, employment bureaus, and the teaching of hygiene.

State laboratory service has been made an important part of the campaign in most states. This is a very valuable service, both to physicians and patients, but it must be properly safeguarded. Both physicians and laity still need education in interpretation of laboratory findings. When it is so easy for a man to take a specimen of blood and send it into the state laboratory, it is more than likely that many physicians will be diagnosing syphilis entirely on the Wassermann. Warning has been given on this point again and again in the literature, but experience indicates that it still needs to be emphasized. Physicians must remember that at best this test is not a specific one; many cases of syphilis show a negative finding, and just as long as there is no accepted standardized technic, false positives will also be reported.



It is impossible for any laboratory to be sure of its findings when specimens are possibly taken in a haphazard fashion, delayed in transit in heated cars from twenty-four to forty-eight hours, and presented with considerable hemolysis. Under the conditions of a public laboratory it seems to me to be a great mistake to report anything except positive and negative, or doubtful. A certain amount of leeway is absolutely necessary in doing many tests, and the condition of the specimen may be responsible for a partially positive or negative report. If the clinician is doing his own tests on his own patients there may be some value in graduated reports, but coming from a public laboratory they are dangerous. I have seen several cases recently in which a good deal of trouble was caused by reports of + or ++ Wassermanns, undoubtedly due to some condition of the specimen submitted or to possible slight error in technic. These cases were absolutely negative in history and clinical findings, and my own checked Wassermann tests were completely negative. Yet these patients had been told by the physicians submitting the blood and receiving these reports that they had syphilis, and must be treated. I have no doubt hundreds of similar cases are happening daily. This is an extremely serious matter and should demand immediate attention. We find the reverse also true. Just recently I had a case referred for diagnosis with a lesion in the roof of the mouth. This case had been under observation for several weeks, but as the Wassermann was negative no treatment had been given. An immediate clinical diagnosis of syphilis was made and neo-arsphenamin was given with prompt results. It was impossible to get a positive test in this case, but that didn't alter the diagnosis. However, the man now has a large hole in his hard palate which ought not to be there and probably wouldn't be if reliance for diagnosis had not been placed on the blood test. Cunningham emphasized last year the danger of relying on serologic cures. Wile has recently commented very pointedly on this same factor, and I believe it cannot be emphasized too much in view of the present increase in free laboratory service. Somewhat similar comments apply to the examination of smears for gonococci. Many men are sending in specimens and on receiving a negative report are telling patients they are cured. In chronic gonorrhea these findings are really worthless. So let me repeat, that in connection with our laboratory service, unless great care is exercised and the proper educational propaganda carried on, this service will result in more harm than good.

Nearly all states have distributed free arsphenamin and the value of this needs little comment. This makes it possible for any patient to get the number of doses needed instead of being limited to the number he could afford to pay for. In Minnesota we distributed

approximately 3,000 ampules from June, 1918, to June, 1919. For the most part, this has gone to dispensaries and hospitals, although we have offered at all times to supply private physicians if no charges were made for services in giving it.

In addition to the regular dispensaries which have been organized to a considerable number during the past year or two, there is a great need for some sort of consulting or advisory clinic to which the private physician can send patients for examination for spirochetes or for gonococci, and for clinical diagnosis, and for a nominal fee can get expert opinions and suggestions for his patients. Something of this sort must be offered if we are going to secure for patients generally the advantages of early diagnosis and early treatment.

The emphasis that has been placed on the need for more dispensary and hospital facilities for venereal diseases was well timed and without doubt great good has been accomplished by this part of the program. The organization of hundreds of evening dispensaries is especially valuable and literally thousands of patients are now getting service at these dispensaries instead of self drug store or quack treatment. Five evening dispensaries were organized in Minnesota last fall and they now see nearly 300 patients at each session. There is, I think, one danger in this connection that ought to be stated; namely, that in the endeavor to get a large number of dispensaries started, the all important need of competent treatment will be forgotten. It can be said that there is no particular value in treatment unless it is good treatment and the decision should rest with trained men. It will be a sorrowful mistake for boards of health to think that any man can be placed in charge of these clinics and produce results. The treatment of syphilis and gonorrhea is still sufficiently complex to demand a specialist's service, at least in consultation.

As a whole, I think there is no question that great good has come from the campaign against venereal diseases. For its continued and further success there is needed greater cooperation of the medical profession, more educational work, both with physicians and laity, and a distinct need for trained men to take an interest and to place their services in some way at the disposal of the official agencies carrying on the work.

## THE TYRANNY OF THE WASSERMANN TEST

H. LISSER, A.B., M.D.

Instructor in Medicine, University of California, Medical School

SAN FRANCISCO

For several years it has been preached and considered sound medical practice to be guided and controlled in the treatment of syphilis by the Wassermann reaction. So long as a patient's Wassermann reaction remained positive, so long must he be energetically and persistently treated until the blood test became negative and *remained* negative. Should the Wassermann reaction slip back to positive after it had once become negative, such a regrettable occurrence was held as an immediate indication for the resumption of treatment. No syphilitic could be considered clinically cured unless serologically cured. Clinical judgment was to be firmly controlled by so-called laboratory accuracy.

The incessant repetition of this doctrine by authority after authority, has indeed brought about considerable improvement in the treatment of syphilis. By and large such patients are more thoroughly and vigorously salvarsanized and mercurialized, and for a longer time, than heretofore. Great good has undeniably resulted from this worship at the shrine of the Wassermann reaction.

Since the great majority of practitioners throughout the land, however, now are convinced that one salvarsan injection will not cure syphilis, nor a little mercury—but that many salvarsan injections and much mercury properly administered are always necessary—since this important syphilitic education of our profession has been fairly well accomplished, is it not an opportune moment to pause and reflect, to review our premises and compare them with the facts, to confront our hypothesis with the results of experience?

"It appears to us that as a guide to therapeutics, the Wassermann reaction does not have a leg to stand on." So writes Udo Wile in a recent article entitled "Serologic Cure in the Light of Increasingly Sensitive Wassermann Tests." It is gratifying to note that a recognized authority with vast experience in the treatment of syphilis, has the courage to record himself frankly opposed to the blind adherence to so-called laboratory precision.

Nothing is farther from my mind than to minimize laboratory achievements, or to neglect their invaluable assistance in most of our clinical problems. But the plain truth is that we do not understand the Wassermann reaction. Some day we hope its precise meaning will

be discovered. But today our knowledge of its significance is not entirely clear.

The Wassermann test is a tremendous aid in the diagnosis of syphilis where careful clinical examination is unable to uncover any signs or symptoms of the disease. This fact is obvious and needs no elaboration. Fortunately, a fair majority of active, infected syphilitics give positive Wassermann reactions. But it is equally true that a respectable minority, and by no means a negligible group, of active syphilitics give a negative response to complement fixation. It has been by no means uncommon in my experience to detect definite signs and symptoms of syphilis urgently requiring treatment in patients with negative Wassermann reactions.

When one is confronted with such a fact, how can one logically claim that a negative test after treatment denotes a cure? *If one patient having a negative test nevertheless requires active treatment, how can it follow that another one be cured because his test is negative?* That the occurrence of negative tests in active syphilitics is only occasional does not destroy the inconsistency of any argument that bases clinical cure on negative Wassermann reactions.

A greater problem, however, that confronts us in guiding treatment by the Wassermann test is the persistently positive Wassermann reactions, and as clearly pointed out by Wile, these cases formerly in the minority, are now steadily on the increase, as the Wassermann test is being made more sensitive. It becomes therefore constantly and increasingly more difficult to bring about negative Wassermann reactions by treatment. Is it after all desirable that the Wassermann reaction become negative? What does it indicate when it becomes negative? I have pointed out above that it cannot denote a cure, because cases that are definitely in need of treatment are sometimes negative to the Wassermann test. It is not beyond the scope of possibilities to wonder whether some day we may not find that a positive Wassermann reaction is a good sign, meaning the presence of antibodies — resistance reaction. I am not advocating any such notion, but one supposition is as permissible as another until we know what a positive Wassermann reaction really means and remember that that is precisely what we do *not* know, even though we are quite ready to build systems of treatment on it.

#### WASSERMANN TEST CONTROL IN SYPHILITIC THERAPEUSIS

As long ago as August, 1915, in a paper entitled "The Treatment of Congenital Syphilis," I had the temerity to express the following views of Wassermann control in syphilitic therapeusis:



## THE CONTROL OF TREATMENT

To what extent do the Wassermann reaction and Noguchi's luetin test aid us in controlling this treatment? It is generally assumed today that these tests must become negative and remain so, if the treatment is to be considered successful; that there can be no cure unless these conditions be fulfilled. Are we justified in this assumption? It is difficult, in our present knowledge, to give a definite answer to this question. We must acknowledge that frequently the treatment of this disease has been and still is inadequate, not intensive enough nor long enough continued. It is a wise plan, therefore, to set up such ironclad standards, the fulfillment of which demands, so often, years of vigorous treatment. But it is one thing to raise obstacles, the surmounting of which insures on the whole more thorough treatment of the disease; and quite another matter to believe implicitly in these standards; to feel convinced that a case is cured when the Wassermann and luetin have been repeatedly negative, and to insist that the doctrine is established which maintains that treatment must be continued while these tests are positive. Such conclusions may be correct, but it remains for the future to prove such a contention. As long as the nature of the Wassermann reaction remains a mystery, so long as nonspecific antigens give more delicate and as reliable tests as alcoholic extracts of syphilitic livers, we must defer positive statements concerning these tests. How strangely the clinical condition of the patient compares with the strength of the Wassermann response, must have occurred to any one who has seen treated and controlled large numbers of syphilitic patients. It is not so rare to see a patient, who feels splendid and is clinically well, and who has received thoroughly the standard mercury salicylate and old salvarsan therapy, but whose serum nevertheless is strongly positive; and again another patient, just as well, having undergone precisely the same treatment, with a negative reaction. And the opposite picture occurs as frequently—a negative Wassermann in a patient poorly treated, showing unmistakable evidences of the disease. These apparent contradictions, even if not the rule, must nevertheless be explained before we are justified in demanding negative Wassermanns, negative spinal fluids, negative luetins from our well treated, clinically healthy patients. The warnings of Keyes are very timely in regard to the blind acceptance of a reaction that we do not even understand. The future may show that these standards are right; for the present, it is certainly wise and conservative to follow them; but it is not necessary to make law out of uncertainty. If we say that a definitely positive Wassermann almost invariably means syphilis and a negative Wassermann means nothing, we have said all that we have a right to say at the present time. And this, of course, assumes that the test has been performed by a competent serologist. In the light of our present knowledge, it is precarious ever to speak of a cure in syphilis, except in those rare cases where the disease is aborted almost immediately after inoculation. To speak of a cure in congenital syphilis is even more unwise. Having the disease under control is quite another matter and should be possible in most instances.

## PSYCHOLOGIC EFFECT OF WASSERMANN TEST ON PATIENT

Another angle of this problem which deserves consideration is the psychologic effect on the patient. For the proper education of the laity it has been a necessary and, for the most part, a wise procedure to give considerable publicity to the importance of "the blood test." The results have not always been beneficial. "A little knowledge is a dangerous thing" and this axiom has been abundantly exemplified in

the patient's interpretation of Wassermann test reports. Occasionally after treatment has been in progress for a few months, the patient will request a Wassermann test "to see how I am getting along." The physician's rejoinder, that whatever the result treatment will have to be continued for a long time, does not shake the patient's determination to have a Wassermann test. Sometimes the test is negative, sometimes strongly positive. If the result be negative, the patient is unduly encouraged, and often becomes so elated that he insists that he is cured and requires no further treatment; after lengthy explanations by his physician he continues treatment, but with a lurking suspicion that treatment is being unduly prolonged. If the Wassermann reaction be strongly positive, he is plunged into gloom and believes that he will never be cured, or that the treatment he is receiving is not of the best and that he had better consult another physician.

When the Wassermann reaction remains persistently uninfluenced by treatment, even after fifteen or twenty salvarsan injections and several courses of mercury salicylate injections, the patient and the physician both become profoundly discouraged. A report on a piece of paper from the laboratory will shake all confidence in clinical success. The patient may be in the best of health, show absolutely no signs or symptoms of the disease and have had thorough treatment for three years or more, but the Wassermann report will overshadow all such considerations and insistently call for more and more treatment until the treatment is far worse than any symptoms from which the patient has suffered. The mental and emotional depression consequent on this faith in the infallibility of the Wassermann test, exerts a sinister influence on the patient's daily life.

Thousands on thousands of patients were cured of syphilis for all practical purposes and lived to a reasonable age before the Wassermann test was devised. Probably most of them would have shown positive Wassermann reactions with the delicate, sensitive methods of today. This is no criticism of the Wassermann test, which none of us would do without. It is a criticism of the hypothesis that clinical cure depends on serologic cure. I admit that clinical judgment is by no means accurate, and that an arbitrary rule that syphilis requires two or three or four year's treatment is but a crude method of controlling the disease, but this is no excuse for permitting ourselves to be deceived by a false sense of security in the Wassermann test. *Too implicit faith in the sensitive Wassermann test is fast driving us into an excess of treatment* — for as Wile aptly remarks, to attempt to convert positive into negative Wassermanns, is in the majority of cases, "chasing a shadow."

## CONCLUSIONS

1. A strongly or definitely positive Wassermann reaction is undoubted evidence of syphilis.

2. It is an invaluable aid in the diagnosis of syphilis, especially in those cases where physical diagnosis does not reveal positive evidence of the disease.

3. A negative Wassermann means exactly nothing. (*a*) It does not prove the absence of syphilis, because negative tests occur in cases urgently requiring treatment. (*b*) Therefore it cannot denote a cure in treated cases.

4. A positive Wassermann reaction means syphilis, but not necessarily active syphilis.

5. Once the diagnosis of syphilis (after the primary stage) is established, the patient should be properly treated from two to four years, depending on the stage of the disease and the severity of the lesions.

6. Treatment should be entirely independent of the Wassermann reaction because negative Wassermann reactions sometimes occur prematurely during treatment, while positive Wassermann reactions frequently persist long after clinical cure.

7. Once the diagnosis of syphilis is positively established, the fewer Wassermann tests done the better, both for the peace of mind of the patient and the physician.

8. The Wassermann test should be employed as an aid to clinical judgment, but not to supplant clinical common sense.







FREDERICK GILLETTE HARRIS, M.D.

1874-1919

## Obituary

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### FREDERICK GILLETTE HARRIS, M.D., 1874-1919

Dr. Frederick G. Harris died at his residence in Chicago, July 2, 1919. His death was due to pneumococcus meningitis. For a few days preceding his illness he complained of headache, and of not feeling well. He worked on, as he had done innumerable times before under similar conditions. On Monday, June 30, he went to bed; the next day evidence of meningitis developed and on Wednesday he was dead. Early in the war he tried to enter the army and was rejected on account of a mitral lesion, which until that time was unknown to him. It is not unlikely that his meningitis was a sequel of this.

Frederick Gillette Harris was born in Chicago, Oct. 19, 1874, and Chicago remained his home during his lifetime. He was graduated from the West Division High School in June, 1895. The following autumn he entered the School of Medicine of the University of Illinois from which he graduated with honors in 1899. In June, 1900, he became intern in Cook County Hospital. On finishing his internship, December, 1901, he was appointed resident pathologist at the hospital, which position he held until June, 1903. This position, which is that of house-officer to the attending pathologist, gave him access to a great quantity of postmortem material. As a result of this experience, and of his continued interest in pathology after giving up his position as resident pathologist to the hospital, he became an expert dead house pathologist with a very extensive first hand knowledge of general pathology.

He spent the next year in Vienna and Berlin and Paris as a student of general medicine. Returning to Chicago in the fall of 1904, he was appointed, first, adjunct professor of physical diagnosis, and later, adjunct professor in medicine in the University of Illinois. He spent a year during 1907 and 1908 in the study of dermatology in Europe, and returning to Chicago in 1908, he thereafter devoted his time to dermatology. He was at once appointed instructor and later assistant professor of dermatology in the University of Illinois. In 1917 he became professor of dermatology and syphilology at Northwestern University. At the time of his death he still held this position together with that of attending dermatologist at Wesley and Cook County Hospitals. He was a member of the American Dermatological Association.

Throughout his professional career he was connected in one capacity or another with Cook County Hospital, the great reservoir of clinical material in Chicago. A feat indicating his competency in general medicine was that of obtaining on civil service examination in 1906 a position as attending physician on the Cook County Hospital staff. At that time, in order to avoid the abuse of political influence in appointment of members of the attending staff of the Cook County Hospital, the positions were placed under civil service and awarded by competitive examination. It was a new order of things in the County Hospital, and the positions were sought by the best men in Chicago. In competition with a hundred or more of such men in internal medicine, Harris received sixth or seventh place as an attending physician. He obtained his position as attending dermatologist in the Cook County Hospital under the same conditions in 1912.

After his first training in dermatology, Harris became one of the dermatologists of respected ability of Chicago. He was an indefatigable clinician. He was seeing a large amount of material all of the time, and was always presenting cases and calling attention to points in them which were interesting and often puzzling to us. In addition to this, he knew so much general

medicine and general pathology that his views were given more than ordinary respect. He was always in attendance at the Chicago Dermatological Society, where he showed many interesting cases and was in all ways one of its best members. He was president of the society in 1915. He was one of the pioneers in this country in the use of the serum-complement reaction in syphilis, and in the study of the spirocheta pallida.

He was not a prolific writer, but he was a regular contributor to dermatologic literature. His papers showed the qualities that would be expected of him. They were sound and scientific with a leaning toward the laboratory. His thoroughness and learning are well illustrated in his paper on the Etiology and Pathology of Cancer of the Skin, which he read in opening the discussion on cancer at the meeting of the American Dermatological Association in 1917.

Among his contributions to dermatology were the following:

A Case of Blastomycetic Dermatitis. *Amer. Jour. Med. Sci.*, May, 1901, 121, page 561.

The Clinical Value of the Spirochetæ Pallida in the Diagnosis and Treatment of Syphilis. *Jour. A. M. A.*, 1908, 51, 1928-33.

Erosive and Gangrenous Balanitis. *Jour. A. M. A.*, 1909, 52, 1474-77.

The Diagnosis of Syphilitic Eye Lesions by Means of the Spirocheta Pallida and the Wassermann Reaction. *Ophthalmic Record*, June, 1909.

The Value of the Wassermann Reaction in Nervous and Cardio-Vascular Diseases. *Ill. Med. Jour.*, October, 1910.

The Administration of Salvarsan. *Index of Oto-Laryngology*, February, 1914.

Chronic Superficial Excoriation of the Tongue or Mueller's Glossitis. *JOUR. CUTAN. DIS.*, November, 1915.

Etiology and Pathology of Skin Cancer. *JOUR. CUTAN. DIS.*, February, 1918.

Harris' great knowledge of medicine was the result of a clear mind and of unending work. He habitually began his labor early in the day, usually worked until evening without intermission for lunch, and as a rule continued late into the night. He had a frail body, and his exacting demands on himself more than once led his friends to protest to him. It cannot definitely be said that over-work killed him, but he did work too hard to keep up his resistance, and it is probable that overwork was a contributory cause of his untimely death.

While his consuming interest was medicine, he had diversions to which he allowed a little time. He enjoyed motoring and took frequent trips into the country or to points of interest in the district surrounding Chicago. His favorite trip for a day was to the dunes on the southwest shore of Lake Michigan, a region of fascinating interests which Harris was capable of appreciating and thoroughly enjoyed. He was fond of travel, and his vacations were often spent in some part of the Rocky Mountains. He was an active member of the Chicago Geographical Society and a constant attendant at its lectures. He also had a lively interest in the history of the middle-west, and was an active member of the Chicago Historical Society.

Harris had expected to devote his life to internal medicine, but in 1906 he thought he saw intimations of middle-ear deafness which threatened his career as an internist. Happily this never developed, but it was at my solicitation, on learning this, that he decided to become a dermatologist. He came with me as my associate in private practice, and remained with me for about a year. The association was delightful; no dermatologist ever had a better assistant or a more congenial companion. He was always agreeable. An

intimate association with him for many years disclosed no qualities to interfere with his likableness. He was modest and quiet and unassuming. He was not temperamental or demonstrative, and, if he had moods, he did not disclose them. His ideals and his personal and professional standards were exacting of himself, but I can remember no instance where they were not generous in his judgment of others.

Measuring him in the most critical way, he was an admirable man and a physician of the highest class. He was a colleague who cannot be replaced. His death relatively early in his career is a loss to American dermatology.

W. A. P.

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#### HENRY W. STELWAGON, M.D.

As we go to press we are saddened by the news of the sudden and unexpected death of Dr. Henry W. Stelwagon, of Philadelphia. Dr. Stelwagon died Oct. 18, 1919, in his sixty-sixth year.



## Book Reviews

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ULTRAVIOLET RAYS IN MODERN DERMATOLOGY. By RALPH BERNSTEIN, M.D., Professor of Dermatology, Hahnemann Medical College, Philadelphia. 162 pages, 11 illustrations. *Achey & Gorrecht, Lancaster, Pa.*, 1918.

A cursory perusal of this book suggests the thought that a new era in dermatologic therapy has been invoked by the advent of the Kromayer and Alpine Sun lamps. The reviewer feels, however, that the author has allowed his enthusiasm to overrun the bounds of that conservatism which an investigator should maintain in heralding the value of any new therapeutic procedure.

As an introduction to this form of treatment there is an interesting sketch of heliotherapy as practiced from the time of the Egyptians and of the evolution of the therapeutic light ray through the researches of Finsen, Garnault, Friedenthal, Hewitt and Kromayer. The light rays are said to be selectively destructive and reconstructive and positively bactericidal. Investigations to bear this out are reported from Finsen, Leredde and Pautrier, Dounes and Blunt, Nagelschmidt, Jansen and Bernstein. MacLeod is quoted as reporting a "selective action in lupus, causing destructive changes in pathologic tissue as a result of inflammatory reaction with negligible effect on undiseased tissue." The author implies superiority of the ultraviolet ray over roentgen rays, radium, surgery and chemicals not only because of greater facility in handling and regulating, but because of absence of danger or pain, accessibility to diseased parts and beyond them, comparatively mild and harmless reactions and the excellent cosmetic results. It is regrettable that the conclusions drawn are based almost entirely on the author's own clinical experience, but for this he is not to blame in view of the paucity of the literature on ultraviolet radiation.

The author describes the Kromayer and Alpine Sun lamps and gives detailed instructions as to the technic to be followed on general principles and in all the dermatoses treated by him. The most obdurate skin diseases, such as idiopathic alopecia, lupus vulgaris, lichen planus, tuberculosis cutis and roentgen-ray dermatoses are reported to have been successfully treated.

Bernstein's excellent results, not in keeping with those generally reported, are evidently attributable to the intensity of his treatments as regards duration and frequency of exposures and the judicious control of reactions from mild to severe, by a variation of time, pressure and distance. He claims that however severe the "burn," ulceration and sloughing do not occur and after-treatment is unnecessary. The reader is apt to regard rather skeptically the "spring tonic" effect of general raying attributed to the action of the rays on the peripheral nervous and vascular systems and the inhalation and absorption of ozone. There are eleven illustrations of apparatus which might be replaced to advantage by photographs of interesting cases before and after treatment. To the dermatologist this book should be of interest, and though he may not concur with the author in some things, such as the treatment of pigmented levi and Paget's disease, and is not likely to share his unbounded enthusiasm, nevertheless he is likely to profit by trying Bernstein's technic and helping to establish the real value and place of the ultraviolet ray in dermatology.

H. R. F.

## ANNOUNCEMENT

### THE JOURNAL OF CUTANEOUS DISEASES, INCLUDING SYPHILIS—ARCHIVES OF DERMATOLOGY AND SYPHILOLOGY

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The American Medical Association, at the request of the American Dermatological Association, has taken over *The Journal of Cutaneous Diseases*, and assumed its publication. In conformity with the names which are being used wherever possible for other special journals published by the American Medical Association, the name will be changed to the ARCHIVES OF DERMATOLOGY AND SYPHILOLOGY. Its editorial management will be under the supervision of an editorial board consisting of Dr. William T. Corlett, Cleveland; Dr. Martin F. Engman, St. Louis; Dr. Milton B. Hartzell, Philadelphia; Dr. George M. MacKee, New York; Dr. William Allen Pusey, Chicago, and Dr. Chas. James White, Boston. The high scientific character which *The Journal of Cutaneous Diseases* has maintained for thirty-seven years as one of the representative special journals of the world will be upheld. The subject of syphilology will be considered more fully in its pages than has hitherto been done, and the effort will be made to have its consideration in the pages of the ARCHIVES cover the whole subject of syphilis. In doing this there will be no lessening of the attention given to dermatology; it is hoped, in fact, that dermatology may be given still further space in its pages, and that a much larger, and perhaps better, journal in the end may be published. The Board of Trustees of the American Medical Association has adopted a most liberal policy regarding illustrations in all the special journals published by the Association; consequently our readers may be assured that reproductions of colored and black-and-white illustrations will be generously used, when available, in this journal under its new name and auspices.



# THE JOURNAL OF CUTANEOUS DISEASES

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## Original Communications

### PARAPSORIASIS LICHENOIDES LINEARIS \*

REPORT OF AN UNUSUAL CASE

H. J. F. WALLHAUSER, M.D.

NEWARK, N. J.

#### INTRODUCTION

The possible relationship of the cases of resistant erythrodermia that have appeared under various titles following the original report of two cases by Unna, Santi and Pollitzer in 1890, under the title "Parakeratosis Variegata," has been sufficiently studied by Crocker, Jamieson, Colcott Fox, MacLeod, Brocq and others. While we are hardly justified in a positive conclusion as to their constituting a clinical entity as a whole, as advanced by Fox and MacLeod, yet, notwithstanding the wide variance in morphological description presented by the recorded cases, they present a common ground for grouping, because of their definite unchanging character and similarity in histopathologic findings, and thus may be accepted as in some way allied or related, awaiting a time when more definite knowledge of the causative factor or factors may prove and account for their production. The following case is therefore presented as constituting one of the group at present being placed under the general title of parapsoriasis, and as unique in establishing an added feature in the morphological development.

#### CASE REPORT

The patient, a woman 31 years of age, a native of Russia, was married and had one child who was living and in good health. The family history was negative; the personal history had been normal until April, 1910, when the patient noticed that her hands became unusually reddened on exposure to decided changes of temperature, and especially after being immersed in hot water, as in washing dishes, etc. About the same time or shortly after, peculiar pains developed in both upper and lower extremities which she described as dull, changing to pricking on exposure to either extreme cold or warmth. The pain was referable mostly to the parts that later developed the eruption, and it had persisted quite constantly ever since; in addition,

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\* Read before the Forty-Second Annual Meeting of the American Dermatological Association, Atlantic City, N. J., June 16-18, 1919.



the patient had become more or less nervous, cried on the slightest provocation and was generally depressed. She was apparently in good physical condition; her weight was 130 pounds; the blood pressure was 115, systolic, and 80, diastolic; the urine was negative as to casts, normal in total solids and urea, but showed a faint trace of albumin and an excess in indican. The blood findings showed: Total erythrocytes, 4,080,000; hemoglobin, 80 per cent.; total leukocytes, 7,800; differential white cell count: polymorphonuclears, 70 per cent.; lymphocytes, 24 per cent.; large mononuclears, 5 per cent., and small mononuclears, 1 per cent. There were no eosinophils and no abnormal leukocytes; the Wassermann test was negative.

#### COURSE AND DISTRIBUTION

The eruption developed about three weeks following the onset of pain; appearing first on the upper extremities, it extended gradually, was complete in about three months, and has remained practically unchanged to the present time, a period of about nine years. The eruption involved mainly the upper and lower extremities in symmetrical distribution. With the exception of an isolated patch under the point of the chin, all other locations including the scalp, face, abdomen and back have remained free; on the upper extremities, it extended to the infraspinous and infrascapular regions; on the lower extremities, it ended abruptly over the crest of the ilium posteriorly and the groin, anteriorly.

The primary lesions consisted of glistening, intensely red, round and oval papules, varying in size from that of a pin-head to that of a lentil, and pale pink and colorless shiny macules with closely adherent scales. The scaling was indistinct, but could easily be demonstrated by slightly scratching the surface of the lesions, which produced scaly elevations, varying in size from that of a pin-point to that of a pin-head or larger.

The lesions were disseminated in some locations, while in others, variously shaped lesions and patches had developed by grouping and coalescence. On the infraspinous region extending down to the infrascapular region, broad, wavy bands, measuring from 1 to 3 cm. in width and from 10 to 12 cm. in length, were present, extending obliquely upward and inward from the posterior axillary fold. On the inner aspect of each arm, long patches had developed, extending up to the axillae, where they ended abruptly with a circular border, practically outlining the axillary cavity which was free of eruption. On other parts of the upper extremities, the papules and macules were irregularly scattered and grouped, varying in intensity of color from above downward, being intensely red on the arms, gradually changing about the middle third of the forearms, where they were less elevated in appearance and fainter in color. On the lower third and extending to the wrists, the color became entirely lost and the papular aspect disappeared, resulting in colorless, shiny macules which could



Fig. 1.—Parapsoriasis lichenoides linearis.



Fig. 2. --Parapsoriasis lichenoides linearis.



Fig. 3. Parapsoriasis lichenoides linearis.



Fig. 4.—Parapsoriasis lichenoides linearis.





Fig. 5.—Parapsoriasis lichenoides linearis.

be seen only on close inspection. On the lower extremities, the morphological aspect changed completely, the lesions being arranged in long parallel lines, extending in various directions, corresponding distinctly to the cleavage lines of Langer.

The general course of the linear lesions was as follows: Over the buttocks they extended from within downward and outward over the upper portion, and from within upward and outward on the lower, becoming transverse just below the gluteal fold and extending in unbroken curved lines completely across the posterior aspect of the thighs. On the middle and lower third of the thighs, the course changed to downward and inward to the popliteal space, which presented an oval area free of eruption; below the popliteal space, they extended obliquely downward and forward, terminating about the lower third of the leg, the color and papular elements gradually becoming lost as on the upper extremities, in colorless, shiny, scaly macules. Over the anterior surface of the thighs, the general course was downward and inward, and the lines intersected at varying intervals which, with their wavy character and intervening healthy skin, produced a picture as though a net had been laid on the skin; over the anterior surface of the knees scattered papules were present, while an oval area free of eruption marked the inner and outer site of each knee; just below the knees, the linear lesions were very prominent, and extended downward and forward. Considering the eruption on the lower extremities as a whole, while a few patches had developed in the meshes of the linear lesions on the thighs, the linear arrangements predominated, comprising the main feature of the eruption.

The arrangements of the lesions following the course of the cleavage lines of Langer was a most interesting and striking feature, and one not previously described in this group of cases.

#### HISTOPATHOLOGY

A section of skin was excised from the site of one of the patches on the inner side of the thigh, and sections were stained with hematoxylin and eosin and polychrome methylene blue. The horn cell layer showed considerable irregularity; in some locations it was almost absent, while in other areas it was slightly increased and lamellated; the nuclei were retained in a few locations only, generally over two or three papillae in each section examined. (Sections measured about 1 cm.) The stratum lucidum was absent. The stratum granulosum was well retained throughout, both in the locations where the nuclei were retained and where they were absent. From one to three rows of cells could be counted; the keratohyaline granules, however, had apparently deteriorated, the cells appearing less distinct and blurred.

The stratum spinosum showed distinct evidence of intercellular and intracellular edema. The cells were swollen and faintly stained, and in some locations the nuclei were observed lying in clear nuclear spaces. In the lower areas and extending into the palisade layer, the edema became increasingly more evident, the cells were more widely separated and in some papillary processes, the line between the corium and epidermis was completely disorganized, the basal cells spreading out in irregular groups, intermingling and merging with an intense cellular infiltration which was present in the papillary and subpapillary areas of the corium. The corium as a whole showed edema; the vessels were dilated; the lymph spaces widened, and the collagen showed evidence of degeneration. It was faintly stained and the collagenous bundles were separated.

The cellular infiltration was markedly limited to the upper corium and extended along the course of the vessels to the deeper portions. The character of the cellular infiltration consisted mainly of the small, round cell type with well stained nuclei and pale indistinct cytoplasm; fibroblasts were present in moderate number, becoming more numerous around the deeper vessels; no plasma, mast, or polymorphonuclear cells were observed.

The microscopical findings corresponded in remarkable detail to the cases previously reported, and the increased fibroblastic proliferation around the deeper vessels to which Stokes called particular attention, defining it as a true perivascularitis, was also present in this case, and would seem to point to vascular injury in the production of the pathological changes.<sup>1</sup>

#### NOSOLOGY AND NOMENCLATURE

The patient was shown at a meeting of the Manhattan Dermatological Society, also at the clinical meeting of the American Medical Association, held June, 1917. The discussion developed an uncertainty as to the classification of the case under parapsoriasis, and it was suggested that it might be considered as an entirely new condition. This confliction was due mainly to the general clinical aspect of the case. On careful study, the primary lesions were found to correspond in general to the type of cases of resistant erythrodermia in which a clinical resemblance to lichen planus is a marked feature, these cases being commonly referred to as the Juliusberg type, in which the primary lesion consists of a smooth, red, flat, pin-head sized papule similar to lichen planus.

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1. Stokes, J. H.: Pityriasis Lichenoides Chronica (Juliusberg), *J. Cutan. Dis.* **34**:345 (May) 1916.



In the case here reported, the diagnosis of lichen planus was strongly advocated by several good observers; a distinction was, however, readily made by the oval or rounded outline of the papules and the absence of the surface markings of Wickham. The difference in color was, likewise, a marked feature, being brighter and inclined to cardinal, rather than purplish or violaceous red; adding the persistent unchanging character of the eruption over a period of nine years, conclusively established the distinction between these conditions.

Lichen ruber moniliformis was also suggested, but was hardly justified, as all the features of this condition were lacking, except the presence of linear lesions which, however, were totally unlike the xanthoma or keloid-like elevated notched ridges, resembling coral beads, as described by Kaposi under the above title.

The clinical resemblance to lichen planus and the persistent character of the eruption, resisting all forms of medication, together with the microscopic findings, should establish the relationship of this case to the group of conditions considered under parapsoriasis; and if we accept the classification as advanced by Brocq in placing the various subdivisions according to their morphological development, it should be considered in the class of parapsoriasis lichenoides, comprising a new feature in the linear arrangement of the lesions, to the clinical manifestations of this interesting group of dermatoses.

#### DISCUSSION

DR. WISE congratulated Dr. Wallhauser on his very well prepared paper on parapsoriasis lichenoides linearis. He had had an opportunity to see the patient and without doubt it was a very remarkable example of that disorder. The description was not sufficient to make one realize the peculiar appearance of the patient's skin. The skin was striped like the hide of a zebra. The name parakeratosis variegata had been given to cases belonging in this group by Unna, Santi and Pollitzer. He had an opportunity to examine fifteen or twenty slides of cases of parapsoriasis and could testify to the great similarity in microscopic appearances, in cases which differed greatly, clinically. In Dr. Wallhauser's patient, there was no doubt about the diagnosis, based on the histopathological findings.



STUDIES, REPORTS AND OBSERVATIONS FROM THE  
DERMATOLOGICAL DEPARTMENTS OF THE BAR-  
NARD FREE SKIN AND CANCER HOSPITAL  
AND THE SCHOOL OF MEDICINE,  
WASHINGTON UNIVERSITY

ST. LOUIS, MO., U. S. A., SERVICE OF DRS. M. F. ENGMAN AND  
W. H. MOOK

II.

A STUDY OF THE RELATIONSHIP OF KIDNEY FUNCTION TO  
CERTAIN SKIN DISEASES BASED ON THE  
PHTHALEIN TEST \*

ROBERT H. DAVIS, M.D., AND M. F. ENGMAN, M.D.  
ST. LOUIS

The investigation of kidney function in skin diseases offered a field for work of the greatest interest to us. The present study was undertaken with the hope of shedding some light on the condition of this function in various skin diseases, especially when no treatment, dietetic or otherwise, had been instituted. The phthalein test of Geraghty and Rowntree has been the only one employed, the ascertainment of the so-called "general kidney function" by this method being considered a proper preliminary step to other general or selective functional kidney and blood retention tests, in such cases or groups as the phthalein method showed to be abnormal. Pepper<sup>1</sup> says this test runs parallel to the blood urea nitrogen test, except that it is more influenced by chronic passive congestion. We must remember, too, that a phthalein test shows only the condition of the kidney at the time the test is made, and a test made a week later may show a different picture, but in those of our cases in which more than one test is reported, the therapy and diet immediately preceding the subsequent tests, are stated. Outside the field of dermatology, the internists have been much interested, together with the pathologists, in determining to what extent an anatomic change and functional derangement are parallel. The results of such investigations have been somewhat disappointing, but Geraghty<sup>2</sup> says "in the average case the reduction in functional power is roughly proportional to the degree of anatomical change." There are, however,

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\* Read before the Forty-Second Annual Meeting of the American Dermatological Association, Atlantic City, N. J., June 16-18, 1919.

1. Pepper: Penn. M. J., June, 1918.

2. Geraghty: South. M. J., March, 1917.

at times variations from this. Stengel, Austin, and Jonas<sup>3</sup> have written a most interesting paper on this subject, but too long to be abstracted here. Longcope and Rackeman<sup>4</sup> have reported a series of six cases, including urticaria, erythema multiforme, angioneurotic edema, and chronic eczema. Two of these, both recurrent urticarias, with severe gastro-intestinal disturbance, showed marked disturbance of kidney function. They also report that in serum disease a profound, though transient, impairment of chlorid and water excretion due to lowered renal function, and direct injury to the body tissues, occurs, and suggest that such injuries, repeated frequently, might result in chronic kidney and liver disease. Only the two cases above mentioned showed "a transient but pronounced nitrogen and salt retention and a depression of the renal function, which were directly connected with the intoxication and formed as much a part of the disease as the skin eruption." Osler's<sup>5</sup> cases of the erythema group associated with visceral manifestations are closely allied with these, and nephritis was the most dangerous visceral concomitant in his series, and was present in a number of his cases, some showing a slow convalescence and a few ending in chronic nephritis. Jobling<sup>6</sup> and his co-workers and Cook<sup>7</sup> and his co-workers, from the results of experiments on animals producing anaphylactic shock by proteose injections, showed that there was an immediate rise in blood nitrogen thereafter, while Whipple and Cook<sup>8</sup> believe that the increase of blood nitrogen is accounted for by unusual destruction of body proteid due to proteose intoxication and not to renal insufficiency; an opinion which Longcope and Rackeman<sup>4</sup> share, at least in part, though there was some transient severe injury to the kidney, too, in their two cases. Protein hypersensitiveness was present, and they believe that the intoxication affected not only the nitrogen and chlorid equilibrium of the body cells but of the kidneys as well, resulting in a transient renal insufficiency. Rappleye<sup>9</sup> found that renal insufficiency was present in from 70 to 75 per cent. of aged, apparently healthy, people examined by him. In fact, he observes that "old age is considered by many to be a chronic incurable disease associated in large part with, or caused by, a diminution of kidney function."

Von Noorden<sup>10</sup> quotes Leyden, Livesing and others to the effect that a long-standing eczema may cause nephritis, but adds that the

3. Stengel, Austin, and Jonas: *Arch. Int. Med.*, March, 1918.

4. Longcope and Rackeman: *Jour. Urol.* **1**:351, 1917.

5. Osler: *Am. J. M. Sc.*, 1895, 110, 629. Osler: *Am. J. M. Sc.*, 1904, 127, 1. Osler: *Brit. Med. Jour.*, 1914, 1, 517.

6. Jobling, Petersen and Eggstein: *J. Exper. Med.* **22**:401, 1915.

7. Cook, Rodenbough and Whipple: *J. Exper. Med.* **23**:717, 1916.

8. Whipple and Cook: *J. Exper. Med.* **25**:461, 479, 1917.

9. Rappleye: *Boston M. & S. J.* **178**: No. 6.

10. Salomon and Von Noorden: *Metab. and Practical Med.* **3**:745.

kidney disturbance of urticaria and acute circumscribed edema is probably due to the same vasomotor disturbance that caused the skin symptoms, while, in ulcerative lesions, the absorption of the products of bacterial metabolism and decomposition probably causes the albuminuria. The treatment of long-standing cases may also be a causative factor of kidney disturbances. The skin diseases that nephritics are prone to are too well known to be repeated here. \*

In our series of eighty-five cases we have grouped the various diseases studied, beginning with those of which our wards furnished the most cases. We have taken 50 per cent. as the lower limit of normal excretion of the dye in two hours, regarding from 50 to 70 per cent. as normal. Below 50 per cent. is reported as subnormal.

#### REPORT OF CASES

*Eczema*.—Of twenty cases tested, seven showed a normal test, but five of these were localized cases in which the disease was limited mostly to the hands and feet. One had been on a meat-free diet for eleven days before the test was made, and one presented a general exacerbation of short duration (one week) of a previous general eczema, which had showed a subnormal kidney function. Thirteen cases showed a subnormal test. Four of these had a low twenty-four hour urine output, one had nephritis on entrance, while one had had a slight nephritis for years, the symptoms of which disappeared while the patient was in the hospital on a salt-free diet. Three of these cases showed a tendency to edema, either general or confined to the legs, and in two of these three cases the edema did not develop until after the skin had become much better from local treatment, and elimination of meat diet. One case was diabetic, but the sugar had been reduced to one-half of 1 per cent. from 6 per cent. by antidiabetic diet for three days before the test was made. Two were ambulant, generalized, chronic cases.

*Psoriasis*.—Of fifteen cases, nine gave a normal test, and one of these had had chrysarobin locally. Six cases were subnormal. Of these one was an acute case, and one had dermatitis exfoliativa also.

*Syphilis*.—Of nine patients, all late secondary or tertiary cases, three only were subnormal. Of these, one had pompholyx also and one had been under mercurial treatment for two days only, but had developed facial edema. The remaining six cases gave a normal functional test.

*Staphylococcic Dermatitis*.—Of five cases, three were subnormal. One of these was of general distribution, on entrance, with some facial edema. The urine of this case showed albumin but no casts. The other two subnormal cases had complications, one having syphilis and one eczema of six weeks' duration. In this latter case the urine was normal, but there was a tendency to edema. Two cases of our five gave a normal test, but one was an exacerbation of only ten days' duration when the test was made. This case was subnormal in the longer previous attack of eczema succeeded by staphylococcic dermatitis, and is also reported as the last case in the first group.

*Urticaria*.—Of our six patients, four were normal and two subnormal. Three of the normal cases were of sufficient duration to be classed as chronic. One was acute. The two subnormal cases were both chronic. In the acute case mentioned, the test was performed after two weeks' rest in bed on a light diet, and adrenalin solution, gtts. xv, t. i. d., from all of which no improvement had resulted. One normal case had low chlorid excretion, while another had been on a meat-free, acid-free diet, with no coffee, for nine days, before the test was made. This case was also on lactic acid tablets, t. i. d. Of

the two subnormal cases, one had chronic interstitial nephritis and myocarditis, so the test in that case was certainly complicated by these factors.

*Dermatitis Herpetiformis.*—Of five cases all were normal except one, and this one practically so (40 per cent.). In one case the patient had been on a vegetable diet, with dilute sulphuric acid, gtts. xxv, t. i. d., and magnesium citrate also, each morning, for two days before the test was made.

*Dermatitis Exfoliativa.*—Of five patients all were subnormal on entrance to the hospital except one, and this one had psoriasis also. One of these excreted 15 gm. of chlorids on the day of this test. Unfortunately, no measurement of chlorid intake was made, but neither general, non-proteid, nor salt-free diet raised the chlorid excretion, though the skin condition improved gradually, and the patient was discharged, after a year's hospital care, much improved. There was a severe, general recurrence after two months, and the patient returned to the hospital and was discharged, after six months, clinically well. Another of these patients, besides showing a subnormal phthalein output on entrance, had a twenty-four hour urine of only 720 c.c. One month later, when the chlorids were tested, the excretion was from 3 to 3.5 gm. daily, after a short period of salt-free and meat-free diet, the skin was much better, the chlorids had risen to 9.8 gm. in twenty-four hours, and the twenty-four hour urine to 1,400 c.c. The function was also improved though still subnormal, but only slightly so (45 per cent.). This patient did not recover during his stay at the hospital, nor did our third case of this disease. This third patient also had a tendency to anasarca, which was relieved by compound powder of jalap. The salt-free diet, while beneficial for a short time, did not seem to help as much as the meat-free diet. These three cases were treated prior to the discovery of the more elaborate selective renal tests now available. One case had also acute lymphatic leukemia.

Of erythema toxicum of unknown cause, we had three cases, two of which had normal renal function, and one subnormal. These cases were characterized by persistent redness and itching, without exfoliation. No dietetic cause was found for the condition.

*Other Diseases.*—Our remaining cases were one only of the diseases mentioned below, and consequently are of little moment, but are included in the study as a matter of record.

One case of lichen planus, which was subnormal (25 per cent.) on entrance, showed interesting variations. Four days after entrance, hyaline casts appeared in the urine. The twenty-four hour specimen was 19 ounces (608 c.c.) only. The patient was put on tablets of hydrarg. proto. iodid,  $\frac{1}{4}$  grain t. i. d. for three weeks. At the close of the first week of this treatment, severe edema of the feet and legs developed, but at the end of the three weeks the test was 40 per cent. and the twenty-four hour specimen 32 ounces. In five weeks more, the lesions had disappeared, and the phthalein test risen to 55 per cent. The protoiodid of mercury was reduced to  $\frac{1}{6}$  grain t. i. d. during the last four weeks. Many hyaline casts were present, however, when the patient was discharged.

Of the other patients, the following gave a normal test on entrance: bullous recurrent dermatitis, varicose ulcer (post eczematous), pityriasis rubra pilaris, zoster, sycois vulgaris, multiple epithelioma and lupus erythematosus. The cases giving a subnormal test were: seborrheic dermatitis, tuberculid (papulo-necrotic type of three months' duration), vitiligo, ichthyosis, pompholyx (this patient also had syphilis), Darier's disease, parapsoriasis, and amebic infection of the hand.

#### LIMITATIONS OF THE PHTHALEIN TEST

Perhaps a few words as to the limitations of the test, and some of the conditions that may complicate its use, will not be amiss. Rappleye<sup>9</sup> has told us that the renal function of old, apparently healthy men was



diminished in from 70 to 75 per cent. of his cases. Moore<sup>11</sup> has found the test applicable to children, though here the difficulties of carrying it out are increased. Christian<sup>12</sup> points out that it cannot be carried out at all if the patient is incontinent, or in coma, while Vaughan<sup>13</sup> considers that if less than 50 c.c. of urine are obtained after two hours, the results are untrustworthy. He gives 200 c.c. of water at the time of the injection of the dye, and the same amount at the end of the two hours. Most writers agree that dark brown urine interferes with the color perception necessary to determine the result of the test, and Logan<sup>14</sup> tells us in such cases to judge by density rather than shade. Rowntree and Geraghty advise, in the pus cases, that the dilution be made with the patient's own urine, drawn previous to the test, while Kerney, discussing Logan's paper, recommends that, in case of bloody urines, we should dilute to 500 or 1,000 c.c. with distilled water, mix, take a test tube full, boil, filter out the coagulated blood, and then add the alkali, and a clear pink fluid to judge from will be obtained. The same procedure, without the boiling, is best for old, so-called prostatic urines containing stringy, gelatinous masses. If edema is present in the tissues where the injection is made, the absorption, and consequently the excretion, of the dye will be delayed. Logan<sup>14</sup> considers the intravenous method the one of choice in such cases. Pedersen<sup>15</sup> says that, if the urine is very ammoniacal you may first have to acidulate with dilute hydrochloric acid, and then alkalinize with the sodium hydrate solution; while Jones<sup>16</sup> advises, if the urine is very dark and concentrated, to precipitate with a little basic lead acetate and filter, before performing the test. Hess<sup>17</sup> draws attention to the fact that phthalein is often excreted more rapidly and completely in the forenoon than in the afternoon, and suggests that this may be due to kidney stimulation from the morning food. These variations in morning and afternoon excretion are not seen, apparently, in renal disease. Healthy kidneys may show a decreased phthalein output due to decreased urinary output.

#### CONCLUSIONS

Of course, no definite conclusions can be drawn from our cases, but certain tendencies seem to prevail. The eczema cases show a decided tendency to subnormal renal function, especially where the disease is at all generalized. Indeed, if the strictly localized cases be not consid-

11. Moore: Northwest Med., March, 1918.

12. Christian: Penn. M. J., January, 1918.

13. Vaughan: J. Lab. & Clin. M., June, 1918.

14. Logan: New Orleans M. & S. J., 1914-1915, p. 686.

15. Pedersen: New York State M. J., April 17, 1915, p. 15.

16. Jones: New York M. J., September, 1914, p. 519.

17. Hess: Johns Hopkins Hospital Bulletin, February, 1915.

ered, thirteen of the remaining fifteen showed a lowered functional activity. This is such a high percentage that it is probable it would not be maintained in a large number of cases, but it certainly evidences a marked tendency to subnormality.

Our psoriasis cases showed a decided tendency to normality (nine to six). It is interesting to note that the only acute case gave a subnormal test. In syphilis, the tendency was decidedly toward normal renal function (two to one), but the number of cases (nine) investigated was small. There was considerable discussion at one time as to the existence of a nephritis in the secondary stage of syphilis, but Von Noorden,<sup>10</sup> quoting a number of reports, considers its presence established, though he regards it as rare and unusually transient, though an albuminuria occurs more frequently, especially in those cases having fever.

The cases of urticaria showed a tendency to a normal function in the proportion of two to one, and one of the subnormal cases had a complicating nephritis and myocarditis. It was noteworthy also that three of the normal tests were in chronic recurring cases. In dermatitis herpetiformis, the test showed a normal kidney function in practically every case, though, as in eczema, a larger number of cases would probably not show the same record. However, the tendency is striking. The cases of staphylococcic dermatitis, while furnishing a slight preponderance of subnormality, were attended by the complications noted in four of the five cases, so no tendency could be said to have been shown. In our five patients with dermatitis exfoliativa, all were subnormal except one, a decided tendency to subnormality certainly, though the number was so few. The only normal patient had psoriasis also. In three cases of toxic dermatitis, the proportion of normal to subnormal function was 2:1. Von Noorden<sup>10</sup> states that while a circulating toxin which damages the kidneys is present in the acute exanthemata, and probably in pemphigus, and the hemorrhagic diatheses, and while in many skin diseases a protoplasmic poison is found which sets up a toxic destruction of albumin, notably in pemphigus and pityriasis rubra, still one cannot say that a nephritis, if present, is due to the skin disease, without additional proof, as the skin disease is often present without a nephritis. Heimann<sup>18</sup> points out that while nitrogen retention, with or without permanent renal disturbance, often occurs in eczema, dermatitis herpetiformis, prurigo and psoriasis, yet we do not know whether the retention provokes the skin disease or both are due to a common cause. "The skin and the general system must each be predisposed (vulnerable) for the skin disease to appear." Osler<sup>5</sup> believes that the poisons, causing the class of skin diseases that is especially associated with primary diseases of the internal organs, are

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18. Heimann: Interstate M. J., May, 1917.

important causes of severe acute nephritis from the frequency of this as a complication, and states that the nephritis comes on at the height of the skin lesion or less frequently from a week to even as much as two months later. It would seem, however, that we dermatologists have neglected somewhat this field of our specialty, leaving what little has been done on it to the internist and the laboratory worker. We must bear in mind the extrarenal factors, which, independent of the skin disease, may lower renal function. Vaughan<sup>13</sup> has enumerated these as follows: focal infections, hyperthyroidism and hypothyroidism, anemia — whether primary, secondary or pernicious — arteriosclerosis and hypertension from this or other causes. These last two factors probably account for the lowered kidney function in old men, noted in the foregoing. To the above list should be added cardiac decompensation.

The fact that, as Christian<sup>19</sup> says, very little work has been done on the effects of restricted diets, or forced fluids, maintained over a long period of time, in which tests of renal function are made as measures of the efficacy of the treatment, should point the way to a fascinating field of investigation in the therapeutics of these cases, to the dermatologist as well as to the internist. We believe with Rowntree<sup>20</sup> that, as functional studies do reveal the excretory capacity of the kidneys, if only one test is used, the phthalein method is the one of choice, and that this should be done as a routine matter. At least, it should be carried out in all cases with generalized or recurrent eruptions, except those due to parasites, and especially in those with probable internal factors.

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19. Christian: Jour. Urol. **1**:319, 1917.

20. Rowntree: Trans. Amer. Congress, 1913, p. 23.

## DERMATOLOGY AND SYPHILOLOGY IN A MEDICAL ADVISORY BOARD \*

HENRY H. HAZEN, M.D.

Professor of Dermatology, Georgetown University School of Medicine, and  
Howard University School of Medicine.

WASHINGTON, D. C.

The medical advisory boards started their work some little time after the local boards were established, and at the onset the instructions that they received were very indefinite, much being left to the judgment of the members. For instance, none of them could learn whether all of the members were to pass judgment on each registrant referred to them, or whether the registrant was to be examined merely for the condition for which he was referred. Unfortunately, from time to time, certain standards, notably those pertaining to weight and height, were markedly, and it seemed to us unnecessarily, altered. As a result, the work done by the varying boards must have varied considerably in quality, for, while we found not a single instance of professional dishonesty, yet we did find many instances in which board members were unwilling to shoulder responsibility, and were prone to indulge in the favorite war game of "passing the buck." It was recommended that the desired minimum personnel for each advisory board should consist of one each of the following specialists: Internist; eye, ear, nose and throat specialist; orthopedist; surgeon; psychiatrist; roentgenographer, and dentist. It will be noted that neither a dermatologist nor one competent to pass on many of the phases of syphilis, or, for that matter, of gonorrhea, was included in the list. However — in Washington at least — the members of the local boards were practically unanimous in the belief that a dermatologist should be available, the various skin lesions encountered seeming to give rise to more diversity of opinion than any other variety of disease.

The statistics recently published in the second report of the Provost Marshal-General show that in the uncompleted statistics a total of 12,519 men were rejected by the local boards and camp surgeons for various skin defects out of a total of 467,694 total rejections. It is rather interesting to note that in only 213 instances were registrants passed by the local boards rejected by camp surgeons.

It is a pleasure to note that from the beginning there were no essential changes in the skin conditions that required a registrant to

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\* Read before the Seventieth Annual Meeting of the American Medical Association, Section on Dermatology, Atlantic City, June 10-13, 1919.



be placed in one of the deferred classes or totally rejected. Dr. William A. Pusey deserves credit for this. According to the regulations men presenting normal skin, acute cutaneous diseases which ordinarily run an acute course, and the common and usually trivial diseases, were to be accepted; those to be accepted for limited military service were those with simple ulcers or other curable skin defects, or with troubles that did not prevent the bearers from following a useful vocation in civil life. Those registrants were to be totally rejected who had "long existing skin diseases or long existing ulcers of the skin which are so severe, or so disfiguring as to incapacitate the registrant for the duties of a soldier, or so disfiguring as to render the registrant objectionable in common social intercourse." In addition, registrants presenting any of the following diseases were to be excluded: Actinomycosis, dermatitis herpetiformis of long duration, epidermolysis bullosa, universal dermatitis of long duration, glanders, idiopathic hemorrhagic sarcoma, mycosis fungoides, pemphigus chronicus of long duration, pemphigus foliaceus and vegetans, cancer, lupus, and severe syphilitic scars. Also registrants with syphilis of the central nervous system or with severe bone lesions were not accepted for active duty. The interpretation of disfiguring skin diseases was at times rather difficult. To the writer it seemed wise, in the early days, to reject any man who had a skin lesion that might resemble syphilis and which was curable with difficulty. This was because of a belief based on observation in prewar days that men did not like to be in contact with other syphilitics, and that a lowering of morale might result. However, as the call for men became urgent, and as we began to learn of the prevalence of syphilis in certain quarters that it is perhaps not wise to mention, this objection was forgotten.

The writer was a member of Medical Advisory Boards Nos. 3 and 4 of the District of Columbia from the time that they were organized until they were disbanded. The feeling of the members of both boards was that a registrant should run the complete gauntlet of all members before he was certified as fit for military service, it being found very early in the work that a registrant might be referred for a supposed heart lesion and rejected for defective vision or middle ear abscess. As a result, each member saw a large number of cases that were not directly referred to him. On both boards the author was responsible for the weighing and measuring of all registrants and hence he was in an excellent position to make notes when the men were completely stripped. In many instances perfectly healthy men were referred to the advisory boards, because of the timidity of a local board member; because of an appeal on the part of the registrant, or because it was necessary for the advisory boards to help out the over-

worked local boards with the out-of-town men who had to be examined in Washington, the city being full of active young men. In other words, the average of the men examined was undoubtedly typical of an equal number from almost any community, since a large percentage of our cases was either from the country or from some other city than Washington.

In an analysis of 1,800 consecutive cases, of which 1,384 were white men and 416 negroes, diseases and abnormalities were noted as shown in Table 1.

TABLE 1.—INCIDENCE OF VARIOUS DISEASES AND ABNORMALITIES IN AN ANALYSIS OF 1,800 CONSECUTIVE CASES

Disease	White	Negro	Totals
Acne .....	179 (12.9%)	32 ( 7.6%)	211
Acne indurata .....	9	0	9
Impetigo .....	0	1	1
Ecthyma .....	1	7	8
Boils .....	1	1	2
Sycosis vulgaris .....	1	0	1
Acne-keloid .....	0	1	1
Tinea versicolor .....	6	1	7
Warts (severe) .....	4	0	4
Scabies .....	1	1	2
Chancre .....	0	5 ( 1.2%)	5
Early syphilis .....	7 ( 0.5%)	4 ( 0.9%)	11
Late syphilis .....	21 ( 1.5%)	54 (12.7%)	75
Eczema .....	15 ( 1.0%)	1	16
Seborrheic dermatitis .....	5	0	5
Psoriasis .....	7 (0.55%)	1	8
Vitiligo .....	1	4	5
Dermatitis herpetiformis .....	0	1	1
Urticaria .....	2	2	4
Hypertrichosis .....	1	0	1
Keratosis pilaris .....	4	1	5
Universal alopecia .....	1	1	2
Morphin scars .....	1	0	1
Scars .....	2	5	7
Keloid .....	0	6	6
Keratosis .....	1	0	1
Lipoma .....	3	1	4
Neurofibroma .....	1	0	1
Pigmented nevus .....	4	2	6
Moles (excessive) .....	1	0	1
Vascular nevus .....	4	1	5
Cerebriform mole .....	1	0	1
Ichthyosis .....	6	0	6
Xeroderma .....	1	0	1
Totals .....	291 (21.0%)	132 (31.5%)	423 (23.5%)

However, if we exclude the syphilis we find the following percentage of skin diseases in the two races: Whites, 19 per cent.; negroes, 16 per cent. It is to be noted that acne, seborrheic dermatitis, eczema, psoriasis and ichthyosis are more prevalent in white registrants, while ecthyma, syphilis, vitiligo and keloid are more frequent in the

negro, all of which findings are in harmony with the views generally held.

All diagnoses were made from inspection only, none of the laboratory tests being employed. From the standpoint of the dermatologist and syphilologist there were a number of interesting facts developed: first, that cerebrospinal syphilis was not carefully searched for; second, that the oculist frequently recognized syphilis when the neurologist, the genito-urinary surgeon and the writer had failed to detect the disease; third, that nearly half of all white registrants had some degree of acne; fourth, pale vascular nevi of the nucha and lower occiput were extremely common. And last, it should especially be noted that the registrants suffering from syphilis and in the hands of general practitioners were almost invariably receiving most inadequate treatment. As regards this point, the policy of the writer was to advise such men to change doctors. This seemed a clear duty to the country. Of course, the board members refused to treat such cases themselves, but did not hesitate to recommend other physicians who would give proper medication.

One most striking fact, although not a dermatologic one, was, that the men who had had previous experience in the army were almost always in much better physical condition than the other registrants, and we felt very strongly that universal military training, for a certain space of time, would be an excellent thing for the young men of this country.

## ARITHMETICAL COMPUTATION OF ROENTGEN DOSAGE \*

GEORGE M. MacKEE, M.D.

Assistant Professor of Dermatology and Syphilology, College of Physicians  
and Surgeons, Columbia University

NEW YORK

The so-called indirect or electrical method of estimating the roentgen dose antedates all other schemes of measurement in practical work. Before the advent of the interrupterless transformer and the Coolidge tube, this method was unreliable and gave way to the so-called direct technic, where pastils or photographic paper instead of spark gap, milliamperage, time and distance were employed. Today, however, with modern apparatus and indirect technic, it is possible to accurately duplicate results.

The technic outlined in this article is based on the invaluable work done by the eminent American physicist, Prof. J. S. Shearer,<sup>1</sup> of Cornell University, and experimental and practical work done in the author's laboratory by the latter's associate, John Remer<sup>2</sup> in collaboration with W. D. Witherbee of the Rockfeller Institute.

### TECHNIC OF ELECTRICAL MEASUREMENT

In electrical measurement there are four essential factors, namely, milliamperage, voltage (spark gap) time and distance. These are the constants or factors that establish the technic. It is possible with modern apparatus to obtain and maintain these factors with an accuracy that fulfills practical requirements.

With 2 milliamperes of current, a 6-inch sharp or blunt-pointed spark gap, a distance of 8 inches from anode to skin and an exposure of 3 minutes, a definite amount of ray will reach the skin. It is obvious that every time these factors are used and maintained throughout the exposure, the quantity of ray reaching the skin will be the same. It becomes feasible, therefore, to establish a technic that is sufficiently accurate for practical purposes, that will duplicate results and that can be passed from one operator to another.

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\* From the Department of Dermatology and Syphilology, College of Physicians and Surgeons, Columbia University, New York.

\* Read before the Forty-Second Annual Meeting of the American Dermatological Association, Atlantic City, June 16-18, 1919.

1. Shearer, J. S.: Factors Governing Photographic Action of Roentgen Rays, *Am. J. Roentgenol.*, Dec. 1915, p. 900; The Physical Aspects of Roentgen Ray Measurements and Dosage, *Ibid.*, June, 19916, p. 298.

2. Remer, John, and Witherbee, W. D.: The Action of the Roentgen Ray in Plate, Pastille and Skin, *Am. J. Roentgenol.*, June, 1917, p. 303.



It is advisable for the operator to know how much ray, in term of units, is obtained with a given set of factors. This information can be ascertained in one of two ways: by biologic or radiometric standardization.

#### BIOLOGIC STANDARDIZATION

Let us adhere to the constants already given — Ma. 2, Sp. G. 6 in., T. 3 min., D. 8 in. Utilize a split-pea sized area of skin on the flexor surface of the forearm of a female adolescent (preferably a blond) for the experiment. Establish all the constants except time. Make an exposure of one minute and wait two weeks for a possible erythema. If none appears, expose a similar area for two minutes and so on. Assume that the third area exposed (three minutes) develops a faint but definite erythema — Ma. 2, Sp. G. 6, T. 3 min., D. 8 in., will be the erythema dose and this particular technic is standardized. Any set of constants may be employed, but with every set used it is necessary to ascertain the erythema dose as above outlined. After the erythema dose has been established, it is necessary only to split the time to determine fractions thereof. The reason for selecting a young fair skin and a flexor surface is because such skin is more sensitive than dark skin on the extensor surface of older individuals. Obviously, it is preferable, for the sake of safety, to standardize the erythema dose on sensitive normal skin rather than on comparatively insensitive skin. The objection to the biologic method is the amount of time required for standardization.

#### RADIOMETRIC STANDARIZATION

This consists of utilizing pastil or photographic paper to determine the time required for the erythema dose with a given set of constants. The method has the advantage of requiring only a few minutes, but it demands considerable experience with at least one reliable type of radiometer.

Before proceeding further it is necessary for the reader to understand and memorize certain physical laws:

1. Intensity varies directly as the square of the voltage (photographic).
2. Intensity varies directly as the voltage (biologic and pastil).
3. Intensity varies directly as the milliamperage.
4. Intensity varies directly as the time.
5. Intensity varies inversely as the square of the distance (unfiltered).

All methods of measurement agree with these laws excepting that relating to voltage (spark gap), where photographic and pastil methods

give contrary results. Biologic experiments, however, support the pastil, so for unfiltered superficial therapeutic work we must accept the second law while the first is applicable to diagnostic work.

To explain these laws in a different manner: 1. Doubling the spark gap, doubles the dose. 2. Doubling the milliamperage, doubles the dose. 3. Doubling the time, doubles the dose. 4. Doubling the distance gives one quarter of the dose.

It should be clearly understood that these laws pertain only to superficial therapeutic work with an unfiltered ray. It is also of the utmost importance to realize that "distance" means from the anode to the skin; not from the glass wall of the roentgen tube to the skin.

It is preferable that the roentgenologist become accustomed to the use of equations, because mathematical formulas allow of visualization and arithmetical computation. The following formula is for *unfiltered ray in superficial therapy*:

$$\frac{\text{Current} \times \text{voltage} \times \text{time}}{\text{Distance} \times \text{distance}} = \text{intensity at the surface.}$$

or, expressed in arbitrary figures:

$$\frac{20 \times 5 \times 4}{20 \times 20} = \frac{400}{400} = 1$$

Now if voltage is doubled intensity is doubled thus:

$$\frac{20 \times 10 \times 4}{20 \times 20} = \frac{800}{400} = 2$$

The same results will be obtained by doubling time or milliamperage.

These laws having been repeatedly controlled by pastil and experiments on living individuals, it became possible to establish a standard formula possessing a definite biologic value with which any dose with any set of factors might be arithmetically computed.

The following standard formula was established as representing the so-called skin unit:

$$\frac{3 \times 3 \times 4}{8 \times 8} = \frac{36}{64} = 1 \text{ skin unit}$$

A digression is necessary here to explain the meaning of a "skin unit." By pastil measurement it represents one unit on the Holzknecht radiometer at skin distance or H 4 at half distance (Hampson 4; Kienbock 8). It is the amount necessary to depilate scalp hair without erythema (epilating dose). It will provoke a slight erythema, if given at one sitting, on very sensitive parts, such as the face of a young girl (erythema dose). It is perfectly safe to administer 1¼ skin units to the scalp, and it sometimes requires this amount and more to

effect an erythema of the skin of the body, but for the sake of safety it has seemed preferable to establish the skin unit as above outlined.

#### STANDARD FORMULA AND ITS USE

In order to demonstrate arithmetical computation the following examples are given: If time is increased by one minute, what will be the result?

$$\frac{3 \times 3 \times 5}{8 \times 8} = \frac{45}{64}$$

The product of this formula is divided by that of the standard formula thus:

$$\frac{45}{64} \times \frac{64}{36} = 1\frac{1}{4} \text{ skin units (H 5)}$$

What will be the dose if the spark gap is doubled?

$$\frac{3 \times 6 \times 4}{8 \times 8} = \frac{72}{64} \times \frac{64}{36} = 2 \text{ skin units}$$

Suppose the distance is changed from 8 to 12 inches the result will be:

$$\frac{3 \times 3 \times 4}{12 \times 12} = \frac{36}{144} \times \frac{64}{36} = 0.44 \text{ (a little less than } \frac{1}{2} \text{ skin unit)}$$

With 2 milliamperes, a 6 inch gap and an exposure of 3 minutes what distance would be required to obtain 1 skin unit?

$$\frac{2 \times 6 \times 3}{\times^2} = 1 : 1 : \times^2 : 64$$

$$\times^2 = 64$$

$$\times = 8 \text{ inches distance}$$

If  $\frac{1}{4}$  skin unit were desired, using the same factors, what distance would be required?

$$1 : \frac{1}{4} : \times^2 : 64$$

$$\frac{1}{4} : \times^2 = \frac{64}{256}$$

$$\times^2 = 256$$

$$\times = 16 \text{ inches}$$

If the milliamperage is changed from 3 to 2 the result will be:

$$\frac{2 \times 3 \times 4}{8 \times 8} = \frac{24}{64} \times \frac{64}{36} = \text{about } \frac{2}{3} \text{ skin unit}$$

If the operator finds it more convenient to employ 2 milliamperes, a 6 inch gap and a distance of 8 inches, how much time will be required for the administration of 1 skin unit?

$$\frac{2 \times 6 \times T}{8 \times 8} = \frac{12}{64} \times \frac{64}{36} = 3 \text{ minutes}$$

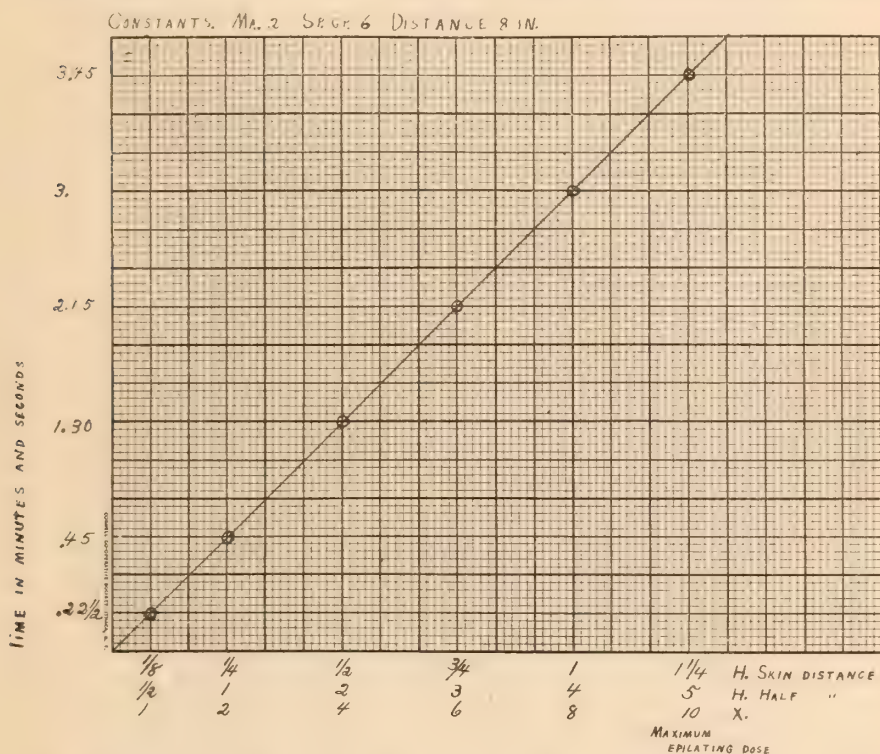
The formula will therefore be:

$$\frac{2 \times 6 \times 3}{8 \times 8} = 1 \text{ skin unit}$$

which may be used as a basis of a dose chart such as herewith appended. This chart is employed for all routine unfiltered work in the author's laboratory.

# MILLIAMPERE MINUTES

Not infrequently roentgenologists find it convenient to combine, by multiplication, the tube current in milliamperes, and the time in minutes and express dosage in terms of milliampere minutes. But it must be clearly understood that the number of milliampere minutes



allowable varies with spark gap and the distance. The standard formula  $\frac{3 \times 3 \times 4}{8 \times 8}$  expressed in milliampere minutes would be: Sp. G. 3, D. 8, Ma-min. 12. Milliampere minutes may be split in any manner so long as the total is the same: 1 Ma. for 12 minutes; 12 Ma. for 1 minute, 6 Ma. for 2 minutes, etc.

# PASTIL READINGS AND ARITHMETICAL COMPUTATION

Arithmetical computation, based on pastil and biologic standardization, has been worked out only for the skin unit and for the maximum epilating dose. If this method is employed for larger doses arithmetical



estimation will not correspond with pastil readings. The following is offered as an example: The formula  $\frac{2 \times 6 \times 3' 45''}{8 \times 8}$  will give an erythema dose (II 1  $\frac{1}{4}$  skin distance) as proved repeatedly by pastil measurement and by experiments on human skin. If the time is doubled, other factors remaining unchanged, it is safe to assume that double the amount of ray has reached the irradiated surface. The pastil, however, will not register twice as much color—that is, it will not read 2 $\frac{1}{2}$ ; in other words, if it requires 5 minutes to color a pastil from 0 to 1, more than 10 minutes will be consumed (about 12 minutes) before the pastil registers 2. The explanation for this error is that the pastil becomes less sensitive as it assumes color, and it does not obey physical and biological rules after 1 or 1 $\frac{1}{4}$  units are passed. In expressing dosage, therefore, it is advisable to indicate exactly what has been done—give the formula used and state whether estimation has been by pastil or by arithmetical computation.

#### ESSENTIALS OF SUCCESSFUL ROENTGENOGRAPHY

It is not the purpose of the author, in this article, to enter into electrical or mechanical details. Suffice it to say that one must be certain of the reliability of his milliammeter, that there is no heavy leakage in the high-tension current, and that the apparatus in general is in good working order. The personal equation has been eliminated but roentgenological technic is not yet fool-proof and never will be. A reasonable knowledge of electricity and roentgen ray is essential.

The standard formula, arithmetical computation and the dose chart contained in this article will be found accurate and reliable if used with an interrupterless transformer (closed magnetic circuit type) of any reliable make and, of course, a Coolidge tube. Now that new types of apparatus are being placed on the market there is likely to be some confusion relative to the term interrupterless transformer. To avoid this possibility the term is made to include a closed magnetic circuit transformer, operated by alternating current supply or by a rotary converter in case of direct current supply. The alternating, high-tension current is then rectified by a rectifying switch.

This is the popular type of apparatus at present. The so-called bedside unit promises to supersede the interrupterless transformer in popularity, especially for superficial therapeutic work. The method of dose estimation as outlined in this communication will not answer the requirements of this new apparatus. Experiments are being conducted and it is expected that a dose chart will be established in a short time.

It has seemed difficult for the novice to appreciate that in unfiltered superficial work the therapeutic effect is independent of quality and

depends on quantity. That is, whether a 6 inch gap or a 9 inch gap is used makes no difference so long as the dose is correct. This is not absolutely true, for there are instances where it is advisable to employ a very penetrating ray, but in the majority of diseases, while there is a large theoretical difference, it is of no practical importance. For various reasons there is a limit to spark gap lengths in both directions, but for most skin diseases the length of the gap is of little importance providing it is not too short, say not shorter than 5 or 6 inches, and that the amount of ray administered is carefully estimated.

The author desires to thank his Associate, John Remer, for invaluable aid in the production of the mathematical formulas.

### DISCUSSION

DR. PUSEY thought that Dr. MacKee was entitled to great credit for working out a technic for giving a measured dose of roentgen rays with accuracy. It was an entirely practical method, and in the speaker's opinion was a very useful step in the development of the technic of roentgen-ray dosage.

DR. WISE said he had been fortunate enough to be associated with Dr. MacKee and had watched his work and enjoyed his teaching, and had used his technic for some time with very successful results. He thought it was impossible for a man who had not done any roentgen-ray work in the last years to apply this technic and use it with any great amount of judgment without preliminary study.

DR. GILCHRIST said that Dr. Pusey and Dr. Wise had expressed so fully and so well what all the members felt about Dr. MacKee's valuable paper that he could only express his admiration and appreciation of the paper. Since Dr. MacKee had shown that it was faulty technic and not idiosyncrasy which was apt to cause burns, it behooved all roentgen-ray operators to correct their technic. He recalled one instance where the same current which supplied the roentgen-ray machine was also used to run the elevator in a hospital and as a result, the strength of the current to the roentgen-ray machine would vary, unknown to the operator. In consequence of this he had seen two cases of radiodermatitis and one case of permanent alopecia of the whole scalp in a child because the dose had been measured while the elevator was running so that when the elevator stopped the current was increased in strength, probably double the amount.

DR. HAZEN stated that three or four years ago when he began to use a modern outfit, he had a good deal of trouble with the pastils, and found that there might be trouble in measuring the dosage. He therefore began measuring the spark gap and milliamperage of each dose and found that this could be done without any special device. He recently reported 225 cases of ringworm of the scalp radiated without any pastil measurements and it worked out very beautifully. He had used a different milliamperage, a different spark gap and different distance, a spark gap of seven and three-quarters, a minute and ten seconds' time and nine inches distance for epilating doses and a milliamperage of four, and it had worked out admirably in every case.

DR. WHITE said that he was not a roentgen-ray expert but felt that he knew something about the effect of medicines and the behavior of the skin and therefore did not see why all skins would always react in the same way to roentgen rays any more than they did to medicines and other extraneous conditions.

DR. HAASE presented his personal thanks to Dr. MacKee for his contribution, and said that up to the week previous he had been afraid to use the

roentgen rays. He thought Dr. MacKee would very shortly give the profession something that could be handled almost as safely as any other remedial agent. He thought that at the same time they would be governed by the reactions, the same as with any other remedial agent, which covered what Dr. White had just said.

DR. MACKEE said that on account of the late hour he would speak only on the subject of idiosyncrasy, a question brought up by Dr. White.

The existence of idiosyncrasy depended largely on the definition given the word. If meant to imply that a minute dose of roentgen ray ( $\frac{1}{32}$ - $\frac{1}{16}$ - $\frac{1}{4}$  of an erythema dose) would produce a first, second or third degree reaction, then roentgen idiosyncrasy was an exceedingly rare phenomenon. In an experience of twenty years the speaker had failed to encounter such a case. If, on the other hand, idiosyncrasy were to include more or less hypersensitiveness or supersensitiveness from various known causes, then idiosyncrasy might be said to be common. The causes for hypersusceptibility were age, complexion, the part of the body, skin affected with certain diseases like mycosis fungoides and skin treated with salicylic acid, chrysarobin, mercury, sulphur, iodine, tar and other irritants.

In previous years, when technic was imperfect the word idiosyncrasy was in constant use. Its use had declined at about the same rate as skill in technic had increased.

# Clinical Report

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## THE TREATMENT(?) OF PSORIASIS

WILLIAM ALLEN PUSEY, M.D.

CHICAGO

### REPORT OF A CASE

A man, a dentist by occupation, aged 31, in good health, came to me for the treatment of psoriasis three years ago. The disease had been present for ten years and showed itself as a fairly abundant eruption on the trunk and on the extremities, of coin-sized patches with a moderate amount of scaling. He returned again in August, 1919, and gave the following history of his rather remarkable therapeutic experience during the last three years. As an illustration of the futility of most of the empiric treatment given in psoriasis—indeed, as an illustration of the *reductio ad absurdum* of empiric treatment of psoriasis, I think the history is interesting, and perhaps instructive. All of the treatment, except the dieting, was given by physicians.

*Treatment and Results.*—1. Three years ago he took six doses of emetin, each 1 c.c. ampule,  $\frac{3}{4}$  gr., at three-day intervals.

2. Two years ago he took three doses of arsphenamin at intervals of five or six days. At the same time he took intramuscular injections of mercury at three-day intervals; this was not as a result of a mistaken diagnosis of syphilis but for psoriasis.

3. At the same time, and following the arsphenamin, he took twenty-five injections of staphylococcus and streptococcus vaccine at three-day intervals. He took sufficiently large doses to get a considerable reaction from each of the first injections.

4. During the last year he has taken, with intermissions, Fowler's solution, from three to fifteen drops three times a day, but has not taken over 2 ounces in all. When he took enough of it to make him ill, the psoriasis cleared up, but recurred in a month.

5. A year and a half ago, he took five injections of autoserum at five-day intervals.

6. For the past seven months he has been on as strict a nonprotein diet as he could devise for himself. He is an educated dentist and has read all about the dietetics of psoriasis, and has been intelligent in eliminating proteins from his diet. During these seven months he has



not eaten meats, gravies, eggs, soup, fish, sea food, cheese, nuts or milk, except the milk in bread. He has eaten no cake or other food containing eggs, as far as he knows; no beans or peas, except that he has allowed himself the luxury of one portion of beans monthly. He has eaten very little white bread, but has substituted bran bread with some graham bread.

7. Eight weeks ago he had his tonsils removed.

8. At the same time he had seven teeth removed. Both of these operations were done specifically for his psoriasis.

9. One month ago, at a well known sanitarium, he had a few roentgen-ray exposures.

As a result of his experience, he has lost 10 pounds, and his vigor is considerably reduced at the present. This is probably due to the rigorous diet of the last seven months. In spite of these measures, the psoriasis shows no improvement. In fact, no material change of any sort.

#### CONCLUSION

I do not record the case as conclusive evidence of the futility of any of these treatments, but as negative evidence of some value against most of them.

## Discussion of Articles Read Before the American Dermatological Association\*

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### LEPOTHRIN, INCLUDING A BRIEF CONSIDERATION OF TRICHOMYCOSIS FLAVA, RUBRA ET NIGRA OF THE AXILLARY REGIONS (CASTELLANT'S DISEASE?)

JOHN E. LANE, M.D.  
NEW HAVEN, CONN.

(This article will be found in THE JOURNAL OF CUTANEOUS DISEASES, June, 1919, p. 387.)

#### DISCUSSION

DR. HARTZELL said that a good many years ago he reported several cases of this disease as red chromidrosis. One occurred in the case of a particularly nice young woman who was very careful about her person; it was absurd to speak of it as due to uncleanness. It was a most difficult thing to get rid of and the people who said that it could be eradicated easily by the application of soap and water and bichlorid did not know what they were talking about. It occurred in other places than the axillary hair. Some years ago he saw a man whose perineal hair was covered with these dark orange-colored nodules.

DR. LANE said that reference to the occurrence of lepothrix in other locations than the axillae had been made in a part of the paper which was not read. The most frequent, and perhaps the only other location was that of the scrotum and pubis.

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### THE ETIOLOGY OF MOLLUSCUM CONTAGIOSUM. PRELIMINARY REPORT OF EXPERIMENTAL STUDY

UDO J. WILE, M.D., AND LYLE B. KINGERY, M.D.  
ANN ARBOR, MICH.

(This article will be found in THE JOURNAL OF CUTANEOUS DISEASES, July, 1919, p. 431.)

#### DISCUSSION

DR. WHITE thought that there was no need for discussion of this paper. Dr. Wile's pictures had shown that there could be no doubt about the matter. He had proved his case. Dr. Robey and he had tried one whole winter to do what Dr. Wile had done but had not been successful.

DR. GILCHRIST extended his sincere congratulations to Dr. Wile on the clear, scientific and thoroughly well worked out paper and also on the beautiful microphotographs. Many years ago he had tried to inoculate molluscum contagiosum into a dog. He took a number of lesions, ground them up with

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\* These articles were published before the discussion was available.

salt solution and then injected them into the jugular vein so that the material would reach the lung. The dog did not seem to suffer in any way. One month later the dog was killed and with the exception of one small infarct in the lung there were no other lesions. No molluscum bodies were found in the infarct.

DR. HARTZELL said as to the histopathology of the disease he thought there was little doubt that in some cases it occurred in the hair follicles, but whether it always did he did not know. He had one case in which the beginning was certainly in the pilosebaceous orifice. He felt that it might also arise from the rete.

DR. KINGERY suggested that there were a number of dermatologic conditions as yet etiologically unknown which might well adapt themselves to study by this method.

DR. WILE said that the work was incomplete and experiments must be carried out into a second generation, and the virus tried out experimentally on animals. It must be determined how it was affected by heat, cold and light.

They had been much embarrassed by the paucity of material. He wrote to several colleagues and was surprised to find that the material was very hard to obtain from them. He took this opportunity to ask the members to contribute material whenever possible so that the studies might be continued. He would like as much as he could get and would prefer to have the material placed immediately in a small amount of normal salt solution, not more than 1 c.c., and sent to him by parcel post.

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## THE QUESTION OF EPIDERMOPHYTON INFECTION (A PROBLEM IN DIAGNOSIS)

CHARLES J. WHITE, M.D.

BOSTON

(This article will be found in THE JOURNAL OF CUTANEOUS DISEASES, August, 1919, p. 501.)

### DISCUSSION

DR. HARTZELL, speaking of the treatment, said that for the past two years he had been using a 2 per cent. salicylic acid solution in 70 per cent. alcohol. In his experience this was the most satisfactory method of treating these cases. They yielded with extreme rapidity to this method when ordinary remedies failed. A case of epidermophyton infection of the scalp had recently been reported by Weiss.

DR. LANE said that Dr. White had very thoroughly covered a subject that had become of considerable importance in the last few years. We had been accustomed to think that these infections were rare except in the groin, but since the investigations of Kaufmann-Wolff on dysidrosis of the hands and feet, more frequent examinations had been made in different regions of the body, with the result that the epidermophyton or allied fungi were very frequently found. His own experience coincided with that of Dr. White. It was unsafe to make a diagnosis of lesions of almost any sort on the feet until a microscopical examination for fungi had been made. Lesions caused by the epidermophyton in this location were of the greatest variety, ranging from slight scaliness to the deep infected lesions described by Dr. White.

He had found the Whitfield ointment rather unsatisfactory treatment and recently had been using an ointment described by Bory, with much more rapid

and satisfactory results. This ointment was composed of iodine, 1 per cent., xylol, 20 per cent., and vaselin. The loose skin should of course be removed as thoroughly as possible before its application. The action of iocamphen, mentioned by Dr. Fordyce, was probably similar; and the latter substance, being a liquid, would be easier to apply.

DR. HAASE had been much more fortunate in finding the organism than had Dr. White. Shortly after the report by Dr. Ormsby and Dr. Mitchell on this subject was given he took the matter up at the university, as well as in private practice, and found the organism so frequently that he was afraid he was mistaken, although he had followed the procedure of Drs. Ormsby and Mitchell. He made a trip to Chicago and interviewed Dr. Mitchell, who assured him that the organism found in culture was the true one. He found it so often in the deep tissues of the feet that he thought these lesions were always epidermophyton infection.

Regarding the contagious nature of the infection, he had seen three cases in one family. The son came to him with lesions on the thighs, and later the boy's father, an elderly gentleman, became infected and was cared for by the daughter and she became infected on the hands. He had recently seen six returned soldiers with the infection on their feet. They had all claimed that they had never had it before entering the army. He asked them if they had received shoes from the quartermaster that had been worn previously, and all said they had. He was inclined to believe that the infection was spread in the army by the shoes used previously by others.

DR. LITTLE stated that the spread of the infection among soldiers had been a very remarkable feature in London during the last few years. The infectivity had been striking. The condition was very common, as in a hospital of 3,000 beds they would perhaps see a dozen cases in an afternoon. The spread was very rapid. One man came from West Africa and on that trip of three weeks, sixteen persons on the ship were infected, probably by him. Another case was that of an officer who came straight from the trenches, and who asked if the condition was infective. He was told that it was and he thereupon refused to go home, but later his father visited the speaker for relief of the same condition. They said it came from the soldier son, although he had not been visited. A week later the father said he thought he had discovered the source of the infection. The soldier son's laundry had been sent to the same place that the family washing was done, and a flannel shirt belonging to him had been worn by the father. The speaker was convinced that this was the source of infection.

In his experience the disorder had been much less common in women than in men, and much less common in women than Dr. White's figures would indicate. He had seen a large number of cases in married men where the wife remained free for years and years. It was quite rare in their experience with women, and they never saw it in a child. He wished to know Dr. White's experience as to children.

As to treatment, he had found Whitfield's ointment irritating, and much preferred Sabouraud's treatment. It was much more rapid in effect. The cure could be effected quite readily within a couple of weeks. The personal reaction to the infection was curiously variable. As an interesting example of this the speaker cited the case of a journalist, a very brilliant, intellectual man who was greatly distressed by the disorder. The patient later discovered the source of infection to be a co-worker on the journal. The latter had had the disease for ten years and paid no attention to it while the younger man suffered intensely. He emphasized the fact that the infectivity was exceedingly great.

DR. COLE had been unable to use Whitfield's ointment in as strong a mixture as recommended by other writers, but in weaker mixtures had used it



quite successfully on the feet and hands. Through an accident in a medical student he found that 1 per cent. mercury nitrate ointment worked well on the groin cases. In the lesions on the feet they were surprised often to find that the disorder was due to *Trichophyton violaceum* instead of the epidermophyton inguinale. In an article seen recently this had also been reported as found by others in the groins and axilla. He had seen a large number of cases, especially in physicians, and many had found that a trip to the seashore and walking in the sand without shoes would cure the disease.

DR. MORROW said that they saw a great deal of this epidermophyton infection in California. There were many instances where the condition had been contracted, apparently, in the gymnasium, from sitting on the benches. Also in the steam room, where they walked around in the bare feet. Evidently nearly all the cases started in the feet and spread to other locations.

DR. FOERSTER stated that with the technic of the base hospital at Camp Gordon, Ga., he had seen only six cases involving the hands and feet; of course, there were a great many cases involving the groins and axillae. In 1915, he saw two instances in twins, aged 10, one having the condition in the left and one in the right foot. The children slept in the same bed.

DR. ORMSBY was of the opinion that Dr. White's contribution was very exhaustive. With Dr. Mitchell he had seen nearly all of the clinical types described by Dr. White and the causative microorganisms had been demonstrated either microscopically or culturally or by both methods. They had not demonstrated the microorganisms as yet in scalp cases. They had seen none of these. The speaker had recently had a patient with the disorder over practically the entire body. There were large sheets of superficial scaly dermatitis over the trunk which appeared like the Brocq type of parapsoriasis. There were lesions over the thighs, in the usual areas occupied by the so-called eczema marginatum, palmar and plantar keratoderma, scaling areas over the dorsi of the hands, and patches on the forearms and arms of the type seen on the trunk. The nails were also involved. The microorganism was isolated from all of these various areas. The disorder had been present six years.

All cases were not produced by the epidermophyton fungus; there were several different organisms, and only a certain percentage were produced by the epidermophyton. The symptoms were typical. He thought the important side of this work was the removal from the category of eczema, dysidrosis and other disorders of a group of dermatoses which responded to treatment and thus relieved many who had suffered for years.

DR. MITCHELL said that in the work in a demobilization camp the incidence of the infection in the groin led him to think that there would be a widespread epidemic. The fact that there was no dermatologist on most examining boards and that most of the work was done by genito-urinary men with little or no training in dermatology was largely responsible for this condition. He knew this from the fact that another board, a flying squadron, had no dermatologist and the men on the board did not recognize these cases. In some units that he had examined, as high as 25 per cent. of the men were affected in the crotch, and no attention had been given to the dermatosis by the medical officers of the unit. The soldier insisted that it was, as he called it, "gall" due to his work and marching, but admitted that many cases occurred on shipboard where the men had done no marching at all since the onset of the infection. The speaker felt that the close contact on shipboard and the hot weather that many of them had experienced were instrumental in causing the disorder. Several of the men said their infection was caused by wearing imperfect shoes. He had seen only a few cases with lesions on the body, as described by Dr. White. All patients were given Whitfield's ointment in one-half strength, because of the recognized irritating qualities of the full strength. Every man was told what the disorder was and the probability of infecting his family

was explained to him. He felt sure that a large number would not use the treatment, although they had all been urged to do so.

The speaker emphasized the fact that all of the cases were not due to the *Epidermophyton inguinale*. Sabouraud had called attention to that and had also called attention to four different organisms. No one who had done extensive work in this disorder claimed that it was due to one organism. In 1914, Gougerot and Gancea described a yeast which they found in these cases and an abstract of their paper appeared in the Practical Medicine Series of that year. This yeast the speaker had also found in his own work and mentioned it in the paper published in 1916. The same yeast had recently been carefully studied in forty-nine cases by Hudelo, Sartory and Montlaur. The lesions produced by that yeast were identical with those produced by *Epidermophyton inguinale* and the treatment was found to be practically the same. In the cultural characteristics the organisms grew much more rapidly than *Epidermophyton inguinale* and were budding organisms, frequently budding at both poles but sometimes at only one.

DR. GILCHRIST recalled for teaching purposes the old term "tinea tricophyton" and wished to know whether the term *Epidermophyton* had taken the place of tinea, the old-fashioned ringworm, or whether it had taken the place of tinea cruris attacking other parts of the body.

He did not agree with Dr. White in making a clinical entity or a group of cases when no parasite could be found. When no mycelium nor spores were found then it did not belong to the *Epidermophyton* group.

With reference to the vesicular type on the hands and feet, he had seen more cases in the last few weeks than in the last three years. He had not found Whitfield's ointment very successful but had used quite strong solutions of carbolic acid very successfully. More recently he had opened up the vesicular lesions pretty well and put on wet bichlorid dressings with great relief to the patient and then had followed with the application of calamine lotion containing a strong percentage of carbolic acid.

DR. POLLITZER said he craved permission to revert for a moment to the papers on lichen planus. It had been argued that lichen planus was not an infectious disease because it was rare in children, almost unknown in both members of a conjugal pair and occurred more frequently in the upper than in the lower classes. It was a curious coincidence that Dr. White's statistics on epidermophytosis brought out an exactly similar set of facts for this unquestionably infectious disease. It was obvious, he thought, that the data found in a known infectious disease cannot serve as arguments against the infectiousness of another.

DR. WHITE said that he had spoken of the infection of the *Epidermophyton* and its kindred organisms.

In regard to Dr. Gilchrist's question, he thought this was a cousin—not a brother—to the old ringworm infection.

He had been struck, in the discussion, by the fact that the various speakers apparently all recognized the forms of the disorder on the hands and feet and thighs, but that almost no one had spoken of the lesions on the large flat surfaces of the body. In a recent number of the *Italian Journal of Skin Diseases*, Valle described "a rare variety of epidermophytosis maculosa disseminata simulating pityriasis rosea," showing that the world was beginning to recognize these lesions on the body.

The disorder was very rare in children, but he had observed a typical case in a child of three. It seemed to be more prevalent in private practice than in the lower classes. It was perfectly simple to cure the form which appeared in the groins and axillae, but it was not so easy to cure the disease in the palms and soles, in his experience.

THE NEURODERMATOSES AND PSEUDOLICHENS: A  
CONSIDERATION OF THEIR NOSOLOGICAL  
AND CLINICAL FEATURES

FRED WISE, M.D.

NEW YORK

(This article will be found in THE JOURNAL OF CUTANEOUS DISEASES, September, 1919, p. 590.)

## DISCUSSION

DR. WHITE asked if in any of these cases Dr. Wise had noticed any epidermophyton infection in the groin, because in the paper he expected to read on the following day he claimed that at least three patients owed their troubles to this cause. Dr. Wise did not speak of the suboccipital location, but spoke of the nape of the neck and he wished to ask what Dr. Wise used in these cases. Dr. White spoke of the very satisfactory results he obtained from the use of crude coal tar.

DR. FORDYCE thought that Dr. Wise deserved a great deal of credit for his careful study of these cases. Personally he preferred the term lichenification, rather than neurodermatitis, which presumed a nervous lesion back of them, and there was no proof of that. Some of them might be of epidermophyton origin. He had seen a number of cases of universal lichenification of the skin, one in a man who had had it since early childhood. It was found that he was sensitized to egg white. The least bit of this would precipitate a dermatitis. In some cases a foreign protein sensitization was doubtless the cause of the trouble. He had treated many cases of lichenification, especially on the back of the neck, with 25 per cent. solution of hydroxid to soften the thickened epidermis. This should be followed by curettage and a soothing ointment. In other cases he had used a coal tar preparation known as carboneol, first suggested by Herxheimer.

DR. GOLDENBERG said that it was now twenty-five years since this subject was discussed at the International Congress at Rome. At that time, Professor Neisser, who opened the discussion, wished to have these cases excluded from the lichen group, just as Dr. Wise had said. The French school and the Vienna school described them as neurodermitis and the Berlin school described them as eczema pruriginosum, meaning to express the resemblance of these cases to prurigo. It was curious that within the last few years Hoffman had again classified these cases under the term prurigo inversa. He wished to say with "inversa" that it did not affect the extensor parts which were generally affected by that disorder, but the flexor surfaces. The description by Brocq and the classification, seemed to be entirely too dogmatic. He did not think that he (Brocq) or any one else was justified in calling the disease a pruritus with lichenification. It was true that pruritus was one of the symptoms but he did not think the disease should be thus labeled. As to the nature of the disease, he thought that metabolic disturbances played an important part.

As far as treatment was concerned, he employed the coal tar oil, introduced by Herxheimer under the name "carboneol," but much stronger. He employed it pure or in strong solution in alcohol, or better as a 33 per cent. coal tar with equal parts of collodion and acetone. The results for the time were very good, but they recurred no matter what was done. This was also true with the roentgen ray.

DR. LANE said that Dr. Wise had very fully brought out the existing state of the confusion in the classification of the pseudo-lichens. It would be much better, as Dr. Wise suggested, to abandon the name of lichen in such condi-



tions as the lichen simplex, Vidal. Perhaps this had not been done because of the numerous substitutes suggested, several of which, like neurodermite and pruritus with lichenification were rather awkward. In this condition, and in some of the others referred to, there was little, if any, difference in appearance from the lichenification which followed eczema and other pruritic diseases of long standing. The differentiation could be made only from the history. In the case of neurodermite the lesion was preceded by pruritus only, and this frequently existed for a long time before the lesion appeared. The neck, as had been stated, was a favorite location for these lesions. Dr. White had referred to them as "nuchal eczema of nervous middle aged women," which appeared a backward step in nomenclature, for they in no way resembled lesions which were now classed as eczema. With Dr. White he had found crude coal tar the most successful drug in these cases. It usually alleviated the pruritus and sometimes softened the thickened skin, but in his hands rarely accomplished a cure. On the other hand, a few mild doses of roentgen rays almost invariably stopped the itching entirely and in a short time the lesions disappeared. The only objection that could be urged against it was that it might possibly add to the subsequent pigmentation. This was not of great importance and it was difficult to estimate as the lesions were frequently attended with or followed by considerable pigmentation even when not treated at all.

DR. HARTZELL thought these cases should be differentiated. In his opinion there was too much inclination to group them under one term. Lichenification with eczema was not very rare but it was still eczema. In certain cases the lichen simplex of the French neurodermitis preceded the formation of the lichenoid patches.

DR. LITTLE said that Dr. Wise had been kind enough to send him a copy of his paper and had asked him to discuss it. Dr. Little was quite convinced that if these cases were accepted we took a different view from that taken in England. In his experience of many years he had seen only forty cases. They regarded it as a clinical rather than a pathologic group. The things which would justify them in making the diagnosis were extreme itching and extreme chronicity. Looking at the excellent photographs, he was quite sure that if they were shown to his Section at least one-half would be ascribed to different diseases, and not accepted as the neurodermatoses of Brocq. In the beautiful picture of the groin it seemed to him that it could easily be pityriasis rubra pilaris, as he had seen those lesions. He thought perhaps the English school was apt to diagnose lichen planus too frequently. In his opinion Dr. Wallhauser's case with the lines down the limbs and across the back looked like a lichen planus, but he thought the diagnosis of lichen planus was made more frequently than it should be made. Many cases of neurodermatoses were quite indistinguishable from lichen planus; for many years they had that appearance and later developed the typical eruption of lichen planus.

He thought the group was useful clinically but did not think the distinction could be readily made at the present time. He thought it would be well to keep the separation and obtain a biopsy in as many cases as possible. Their cases did not submit at all readily to biopsy. If one was to depend on the pathologic diagnosis they would not, in England, make the diagnosis once in a hundred cases.

DR. PUSEY felt that the Association was indebted to Dr. Wise for bringing up this subject of lichenification of the skin for discussion, although he could not agree with many of the views that Dr. Wise advanced. His views were very much those of Dr. Little. It seemed to him that the attitude of the English on this subject was the reasonable one. He believed that there were perhaps several clinical entities in this group, but he did not believe that lichenification in itself was characteristic of any definite disease. It represented changes in the skin due to subacute or chronic inflammatory processes which could be produced by several processes. He was particularly opposed to the



name "neurodermatoses" for these cases. Many of the cases represented types of sensitization which was not a neurotic matter at all. He liked the term lichenification to describe a certain clinical condition in the skin, but he did not believe it could be erected into a distinct clinical entity. He particularly objected to the name "neurodermite" which only confused the situation by introducing a name the meaning of which was unfamiliar and which therefore could be juggled with readily.

DR. WISE said it was gratifying to hear that none of the members objected to classifying the primary cases as a disease entity, which he believed it was, and thereby became separated from eczema. There was probably a true variety which could be separated from the eczema group and another variety which could not.

Replying to Dr. White's question as to whether they found the epidermophyton, he had had an opportunity to examine only two cases and in neither one were they able to find it. In the case with the lesion on the back of the scalp, which was a relatively common location in women, they did not find any patches elsewhere on the scalp. Treatment in his hands had been unsatisfactory, except with the roentgen ray, with which he had obtained very good results. Dr. Goldenberg spoke of prurigo as being the name recommended by foreign observers for these cases, but the speaker had never been able to understand how prurigo could be associated with any of the cases he had shown. Prurigo was a distinctly papular disease and he did not see where prurigo came in at all in connection with neurodermitis; there was no stage which presented the true prurigo papules. Of all the names he knew he considered that the least satisfactory. The patient with the warts in the cubital region was an example of ordinary warts appearing in the area formerly occupied by neurodermitis.

He was surprised at Dr. Little's assertion that the disease was uncommon in England. The thirty patients he mentioned in the paper were picked at random out of probably a hundred recent cases from the Vanderbilt Clinic, and they were very common in New York.

He expressed the opinion that the true primary examples of neurodermitis with lichenification had their origin and pathogenesis in the scratching and trauma induced by pruritus, preceding the changes observable on the skin.

## Book Review

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DISEASES OF THE SKIN. By JAMES H. SEQUEIRA, M.D., F.R.C.P., F.R.C.S.  
Third edition, with 52 plates in color and 257 text figures. P. Blakiston's  
Son & Co., 1012 Walnut Street, Philadelphia, 1919.

The third edition of Dr. Sequeira's book hardly needs an introduction to American dermatologists: this book has been well and favorably known for a long time. The general arrangement is along etiological lines when possible, morphological grouping being used elsewhere. The illustrations are numerous and for the greater part excellent. Written in clear, concise English, the book is not "littered up" with extensive discussions of mooted points, but tends rather to a direct presentation of facts supplemented by the author's personal views. The bibliography is not extensive, the bulk of references being to English authors.

Designed for undergraduate students primarily, this book will grace any library and repay any one for its careful perusal.

W. H. G.

















